The Mining Journal
RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 719.—Vol. XIX.] LONDON, SATURDAY, JUNE 2, 1849. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

SIMMONS *v.* MALCOLM.

IN RE MINERAL COURT MINE,

IN THE PARISH OF SAINT STEPHENS, IN BRANWELL.

NOTICE IS HEREBY GIVEN, that, pursuant to an Order, or Decree, made in this cause, and bearing date the 18th day of May instant, a PUBLIC AUCTION will be HELD at PEARCE'S ROYAL HOTEL, TRURO, on Thursday, the 14th day of June next, at Four o'clock in the afternoon, for SELLING TWO (256ths) PARTS, or SHARES, of and in the said MINE, and its ORES, HALVANS, MACHINERY, and MATERIALS.

For further information application may be made to Captain Webb, on the mine, or to Mr. G. N. SIMMONS, Solicitor, Truro.

Dated Registrar's Office, Truro, May 29, 1849.

AT ST. ROLLOX, GLASGOW—5TH, 6TH, AND 7TH JUNE.

TO RAILWAY CONTRACTORS, TIMBER MERCHANTS, BUILDERS, IRON-FOUNDERS, ENGINEERS, MILLWRIGHTS, SMITHS, &c.

MESSRS. HUTCHISON & DIXON have again been favoured with instructions from Messrs. John Stephenson and Co., railway contractors, to SELL, BY AUCTION, on Tuesday the 5th, Wednesday the 6th, and Thursday the 7th of June, commencing at Eleven o'clock A.M. each day, at the Yard, Inchbelly-road, immediately behind the Caledonian Railway Company's engine sheds, St. Rollox, Glasgow, a most valuable and extensive lot of 2

RAILWAY MATERIALS, STEAM-ENGINES, &c.,

Used in the construction of the Scottish Central and Midland Railways.

Among the articles may be enumerated, a large quantity of earth waggons, wheels and axles, loose axles, crab winches (single and double powers), travelling cranes, quarry cranes, steam cranes, a number of Henderson's patent derrick cranes, pumps, various sizes (from 6 to 12 inches), with buckets, rods, and bell cranks, a very large quantity of ironwork for earth waggons, smiths' bellows, anvils, iron sheave and snatch blocks, wooden sheave blocks, tackle falls, fans, boggies, dobbing carts, timber and stone waggons, picks, pinches, wheeling planks, taps and dies, spikes, sulphate of copper, a large quantity of double shear and cast steel, bar iron, &c.

A HORIZONTAL HIGH-PRESSURE STEAM-ENGINE, cylinder 10 inches diameter, and 18-inch stroke, with boiler and mounting.

A BEAM HIGH-PRESSURE STEAM-ENGINE, with moving column, cylinder 15 in. diameter, and stroke 3 feet, boiler made on the locomotive principle, with mounting, besides numerous other articles of great value connected with contracting work.

The above PLANT is in excellent condition, and to parties entering into contracts, this sale will be found a most advantageous opportunity of purchasing valuable materials, not often to be acquired at a cheap rate.

Catalogues will be ready eight days previous to sale, and may be had at the contractor's offices in Liverpool, Carlisle, Perth, Greenock; or here at Messrs. P. and W. M'Lellan's, 129, Trongate, and the Black Bull Sale Rooms, 8, Virginia-street, from Hutchison and Dixon, Auctioneers.—Black Bull Sale Rooms, Glasgow, May 22, 1849.

EXTENSIVE IRON-WORKS FOR SALE.

UPSET PRICE FURTHER REDUCED TO £45,000.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, GLASGOW, upon Wednesday, the 13th day of June next, at One o'clock afternoon (if not previously disposed of by private bargain), 3

THE BLAIR IRON-WORKS,

belonging to the Ayrshire Iron Company, situated in the parish of Dairy and county of Ayr, including FIVE BLAST-FURNACES, with TWO BLOWING-ENGINES, fit for these and additional furnaces, manager and workmen's houses and stove, together with a large extent of MINERAL FIELDS, held under most favourable leases, producing Iron-stone of the best qualities, Coal, Limestone, and Fire-clay, with Pits, Steam-Engines, and necessary appurtenances for carrying on the works on an extensive scale; also the adjoining MALLEABLE IRON-WORKS,

so far as erected—all having a connection with the Glasgow and Ayr Railway, and as more fully described in former advertisements.

There is a large stock of ironstone on the ground, which may be got at a valuation.

For particulars apply to Mr. Biggart, at the works; W. D. Starling, Esq., 13, Change-alley, Birchin-lane, London; Mr. Watson, 29, or Mr. Brown, 35, St. Vincent-street, Glasgow.—Glasgow, May 10, 1849.

SALE OF MODUM BLUE COLOUR WORK, SMALT WORKS, AND COBALT MINES, IN NORWAY.

BY ORDER OF THE COURT OF BANKRUPTCY,

The SALE of the PROPERTY belonging to the copartnership called MODUM BLUE COLOUR WORKS, will be HELD at the GRANGE OF FOSSUM, in the parish of MODUM, Bailleship Buskerud, Bishopric Christiania, in the kingdom of NORWAY,

ON WEDNESDAY, THE 20TH OF JUNE, 1849,

AT ELEVEN O'CLOCK A.M., 4

Consisting of the BLUE COLOUR WORKS, MINES, BUILDINGS, LANDS, FORESTS, SAW and CORN MILLS, as well as all IMMOVABLES belonging to the WORKS, besides all RIGHTS and PRIVILEGES belonging to it; also the ORES, HALF MANUFACTURED GOODS, and INVENTORY, being in STOCK at the WORKS, or ELSEWHERE DEPOSITED and MORTGAGED in NORWAY.

The STOCK of MANUFACTURED BLUE COLOURS (smalts) will BE SOLD SEPARATELY.—The buyer acquires the claims of the works against the labourers and others.

The provisional notice of the Sale of the Modum Blue Colour Works appeared in this paper on the 28th April, with a short description of the property, and on the 12th May, with further particulars.

The conditions of sale will be lodged in due time.

Möllenhof, near Drammen, the 25th April, 1849. G. P. RASCH.

Inquiries may be addressed to Goodhall and Reeves, London.

TO ENGINEMAKERS, BOILERMAKERS, IRONFOUNDERS, AND IRONMASTERS IN GENERAL.

MR. G. O. BROWN begs to announce that he has received instructions from the proprietors of MILTON IRON-WORKS, near BARNSLEY, to submit to PUBLIC COMPETITION, BY AUCTION, on Monday, the 25th day of June next, and following days (Saturdays and Sundays excepted), until the whole are sold, at the WORKS, the WHOLE OF THEIR 5

EXTENSIVE STOCK

Of enginemakers', boilermakers', ironfounders', fitters', and turners' tools, 30 hearths of smiths' tools complete, steam-engines, slotting machine, drilling machine, 2 railway wheel lathes, boiler plate bending machine, cupolas, fans, and shafting, screwing and nut machine, a large pipe proving machine, and various other machinery suitable for the iron trade, 10 double and single purchase crabs, various blocks and ropes, metal and other cranes, 2 road-weighing machines, 2 filling machines, and one smaller weighing machine, a large strong fly punch, a set of large three legs, crab and breaking ball, 600 tons of forge pig and refined plate metal, 100 tons of bar and rod-iron (various sizes), a quantity of English oak and other timber, the whole of the office furniture, fittings, and fixtures, which are very good and complete, together with

A FIRE-BRICK FURNACE LINING,

complete; a quantity of seasoned hearthstones and damstones, and a great variety of other articles, which cannot be enumerated here, but which will be particularised in catalogues before the sale.

Mr. G. O. BROWN has also received instructions to OFFER FOR SALE, BY PUBLIC AUCTION, at the same time and place as above (unless a treaty be concluded previously by private contract), all the STEAM-ENGINES, CUPOLAS, MACHINERY, pipe-proving engines, cranes, wood and iron models and patterns, metal casting boxes, core barrels, drawing and working plans, lately used by Messrs. Graham, in carrying on their extensive Foundry and Engine Manufactory at Milton Iron-Works.

As the casting and engine department will not in future be carried on at the Milton Iron-Works, a LEASE will be GRANTED to any eligible party applying for a plot of ground near the Elsecar Colliery, and adjacent to the Dearne and Dove Canal and South Yorkshire Railway.

Application to be made to treat by private contract for the last-mentioned articles to Mr. Newman, of Darley Hall, near Barnsley; or to Mr. Woodhouse, of Overseal, near Ashby-de-la-Zouch.

TO BE SOLD, BY PRIVATE TREATY, A VALUABLE TIN and SILVER-LEAD MINE, situate in the parish of CALSTOCK, in the county Cornwall.—The sett is extensive, and contains several valuable TIN and SILVER-LEAD LODES, in a beautiful clay-slate strata, which holds out great promise of becoming a rich and lasting mine. The different agents who have inspected the mine speak of them in the most encouraging terms, and strongly recommend the working of them. There are also the requisite mine buildings—viz., counting-house, blacksmiths' and carpenters' shops, material-house, assay office, and the materials on the mine. 6

The property is held under a lease for 21 years, 20 of which are unexpired, at 1-16th dues.

Detailed particulars may be obtained, either by personal application or by letter (prepaid), to the proprietor, Mr. Wm. Bice, Callington; or at the office of the *Mining Journal*, 26, Fleet-street, London.

FOR EVERY HOUSE IN THE KINGDOM.

HARPER TWELVETREES' GENUINE CONCENTRATED WASHING PREPARATION, for accomplishing a week's wash in 1½ hour, and is warranted not to injure the finest fabric.—Sold by all chemists and oilmen, in bottles, at 6d., 1s., and 1s. 6d. The 1s. 6d. bottles contain sufficient for 48 gallons of water, which will boil three lots of clothes, being equal to 144 gallons.

All the leading journals in the kingdom have spoken favourably of this invaluable process, now adopted in most of the infirmaries, asylums, public institutions, and families throughout the kingdom.

MANUFACTURED only by TWELVETREES, BROTHERS, Ink and Blacking Manufacturers, Millman-street, Bedford-row, London, wholesale and for exportation.

Two thousand more agents wanted.

Sold wholesale by Barclay and Sons, Sutton, Edwards, Hanney, &c.

No Chemical or Potash preparations are introduced, which are notoriously injurious to linen.—MANUFACTORY—MILLMAN-STREET, BEDFORD-ROW, LONDON.

GROWA SLATE COMPANY, TREVALGA, CORNWALL.

6000 parts, or shares, of £5 per part, or share (all paid), whereof 2300 parts, or shares, are offered to the public. 8

NOW IN WORK ON THE "COST-BOOK" PRINCIPLE.

The QUARRY is situated on the CLIFFS, within one mile of the port of Boscastel—vessels load at the quarry during three-fourths of the year.

The SLATE forms a remarkable exception to the general constitution of this mineral; and whilst its applicability to the several purposes of roofing, flooring, and the usual adaptations of the grey, blue, and other slates, a new series of utilities has been developed to the directors (by a gentleman who has, in consequence, been appointed superintending engineer to the company), which will extend its application in a variety of preparation to an extensive and completely novel character of uses.

A PATENT is in course of completion, for the purpose of securing to the shareholders in this undertaking the exclusive benefits to be derived from one of the most attractive discoveries of the present age.

Prospectuses, and all other information, may be obtained at the offices of the company 87, Threadneedle-street, where specimens of the slate may be seen; or to the solicitor, John Chapple, Esq., 70 A, Aldermanbury. Prospectuses can also be had at the office o, the *Mining Journal*, 26, Fleet-street.

London, May 16, 1849.

DUISBURG IRON-WORKS AND MINES, *IN WESTPHALIA, CLOSE TO THE RHINE.*

Managed in England according to the principles of the "Cost-book System," and in Prussia as a *Société in Commandite*, under laws limiting the liability of the shareholders to their personal subscription. 9

Company's Offices, 28, Moorgate-street, City.

PREVENTION BETTER THAN A CURE.—RAILWAY COMPANIES, OWNERS and PROPRIETORS OF STEAM MACHINERY in general are respectfully informed, that the ONLY INFALLIBLE METHOD OF PREVENTING BOILER INCRUSTATIONS 10

is that lately PATENTED by Mr. HORSLEY, which, while it effects a considerable saving of time, fuel, wear and tear of machinery, tends greatly to DIMINISH, if not altogether to PREVENT, the POSSIBILITY OF EXPLOSIONS.—No destructive ammoniacal or other salt is introduced into the boiler.

As this Patent embraces a field of so extensive a character, applying equally to Water Companies and Manufacturers, it is the intention of the proprietors to FORM a COMPANY, so soon as a sufficient number of individuals can be got together.

For further particulars and prospectuses, apply to Mr. Horsley, Ryde, Isle of Wight; of Mr. Campin, Patent Office, 210, Strand; or the office of the *Mining Journal*, No. 26 Fleet-street, London.

STRUVE'S PATENT MINE VENTILATOR. TO COLLIERY PROPRIETORS.

Quantity of air passed through a Mine almost unlimited, to the extent of 200,000 cubic feet per minute, if necessary—depending on size of apparatus. 11

No injury to pumps, tubbing, chains, ropes, or pitwork.

Goaves kept clear.

Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind.

Current of air undeviating.

LICENSES will be GRANTED on application to

Mr. WILLIAM PRICE STRUVE, C.E., Swansea.

The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Penrose and Evans, Neath.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 12

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at considerably reduced prices.

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall.

TESTIMONIALS. 13

We, the undersigned, hereby bear our testimony to the excellence of the Safety Fuse, manufactured by Messrs. Brunton and Co. We have had it in use in our mines; and, after sufficient trial, find it to be fully equal to any Fuse we have ever used:—

Carn Brea Mine.

R. H. Pike, Purser.
John Leuten, James Miners, John Vivian, John James, } Agents.

North Pool Agents.

James Evans.
John Nancarrow.
Frederic Evans.

South Roskear Agents.

John Dunkin.
William Thomas.

Cook's Kitchen Agents.

Joseph Vivian.
Richard Bennetts.

Cook's Kitchen Agents.

John Ivey.
William Hitchens.

North Roskear Agents.

Joseph Vivian.
William Michell.
William Thomas.

Tincroft Agents.

Peter Floyd.
Thomas Stainsby.
Thomas Lean.
Henry Hocken.
Richard Martin.

William Nancarrow.
Alex. Eudey, Joseph Eudey, } *Wheal Agar Agents.*

IMPROVEMENTS IN MACHINERY FOR THE MANUFACTURE OF WIRE ROPE or CORDAGE, and IMPROVED MODES of FITTING and USING the SAME.

ANDREW SMITH'S PATENT WIRE ROPE.—The Undersigned respectfully inform the public that they have become SOLE LICENSEES of Mr. ANDREW SMITH, for the MANUFACTURE and SALE of his PATENT WIRE ROPE, and that they have REMOVED from the premises (late Mr. Smith's) at Millwall to HIGH-STREET, WAPPING, where orders will be executed with the utmost attention and dispatch.—Lightning Conductors, Signal Cord, and Sash Line, always in stock. WILKINS & WEATHERLY.

Patent Wire Rope Works, 39, High-street, Wapping, London, May, 1849. 14

NOTICE.—ANDREW SMITH'S PATENT FOR WIRE ROPE.—A letter, signed "George Binkes," formerly in our employ, having been generally circulated, containing much gross misrepresentation, and calculated to mislead the public, the Undersigned beg to state, that having made definite ARRANGEMENTS with the PATENTEE for a LICENSE to MANUFACTURE, under the patent secured by him, bearing the date of May, 1849, they are fully enabled to EXECUTE any ORDERS with which they may be favoured. Having removed to more commodious premises, and availed themselves of improved machinery for the manufacture of the article, they have only to assure those who may favour them with their orders, that the same care and attention shall be bestowed which, they have reason to believe, has secured them such general support. WILKINS & WEATHERLY.

Patent Wire Rope Works, 39, High-street, Wapping. 15

THE STEAM-ENGINE.—W. BROTHERTON & CO. beg to CALL the ATTENTION of ALL PARTIES EMPLOYING STEAM-POWER to their PATENT PURIFIED OIL for the ECONOMICAL WORKING of the STEAM-ENGINE and other MACHINERY.

The adoption of its use effects a saving of 25 per cent. on the quantity required for lubrication over any other oil; and its properties are such as to greatly preserve the bearings of machinery in general. A trial will prove the fact. 16

W. BROTHERTON & CO.,

PATENT OIL FACTORY, HUNGERFORD WHARF, CHARING-CROSS, LONDON

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1866 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis. 17

THE SCIENCE OF WASHING.—"It is but common justice to state, that we have seen the mode invented by Mr. Twelvetrees, of Millman-street, Foundling Hospital (noticed in our paper a short time back), described by very many of our country contemporaries, from experience, as bearing out all Mr. Twelvetrees professes. The experiment is so cheap and ready, that it is worth any good housewife's while to adopt it."—*Douglas Jerrold Newspaper, March 24.*

THE SCIENCE OF WASHING, by HARPER TWELVETREES, bookseller, price 2s. 6d., to be had of Kent and Richards, London, and all booksellers. 18

LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sums not less than £500.—Applications to be made or addressed to this office. 19

125, George-street, Edinburgh, May 30, 1849. D. RANKINE, Treasurer.

WANTED,—ARTICLED PUPIL.—Mr. C. S. RICHARDSON will take into his office a YOUNG MAN, for three years, as PUPIL; his course of studies will consist of House, Land, and Mining Surveying, Architectural and Engineering Drawing, in all its details, the Computation of Quantities, Valuation, Estimating, and the usual routine of the office.—Premium moderate. 20

Apply for terms at the office, No. 5, Whitefriars-street, Fleet-street.

TO BE SOLD (CHEAP), a 40-horse HIGH-PRESSURE HORIZONTAL STEAM-ENGINE, quite new; cylinder 24 inches diameter, stroke 4 feet, mounted upon a strong metal box frame.—Apply to Mr. Matthew Smith, Sylvester Works, Sheffield, where the engine may be seen. 21

TO MINE AGENTS AND OTHERS.—WANTED TO PURCHASE, a QUANTITY of YELLOW OCHRE and UMBERS. Washed sample casks, containing not less than 1 cwt., delivered free to Mr. Lane, 80, Old Broad-street, London, with lowest price delivered in London and Liverpool. 22

FOR SALE,—SHARES in that promising TIN MINE, called RIX HILL (East Crowndale), now making considerable monthly returns. 23

Apply to Mr. William Birdsey, 9, St. Michael's-alley, Cornhill.

PENNANT AND CRAIGWEN MINING COMPANY.—Mr. LANE, 80, OLD BROAD-STREET, has instructions to SELL FORTY-FIVE SHARES in the ABOVE MINES, at 15s. per share. 24

MINING OFFICES IN CORNWALL.—Messrs. JOHN T. TEAGUE & CO., MINE SHAREBROKERS, No. 4, KING-STREET, TRURO, have BUSINESS to do in the following MINES:—West Buller, South Frances, Condurrow, East Pool, East Wheal Rose, Stray Park, East Buller, Camborne Consols, West Caradon, Wheal Mary (Redruth), West Seton, Comfort, Wheal Seton, Mineral Court, &c. 25

Truro, May 30, 1849.

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.: Imperial Brazilian, Copiapo, St. John del Rey, Botanco, Altens, Royal Santiago, Australian, Holmbush, East Tamar, Treleighs, Devon Great Consols, East Wheal Rose, West Caradon, South Wh. Frances, Condurrow, East Pool, Lewis, and Bedford Mines. 26

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities. 27

JAMES LANE, MINING SHARE DEALER, 80, *OLD BROAD-STREET, LONDON.* 28

ANGLO-MEXICAN MINING ASSOCIATION, 5, Broad-street-buildings.—The ANNUAL GENERAL MEETING of the proprietors of the association for assisting in working the mines of Mexico, and other parts of Spanish America, will be HELD at the company offices, 5, Broad-street-buildings, on Wednesday, the 4th day of July next, at One o'clock precisely.—Immediately after the above meeting shall have been held, a Special Meeting of the proprietors of this association will take place, for the purpose of submitting a resolution for dissolving the company, and appointing a committee of directors and proprietors for carrying the same into execution, in conformity with the provisions to that effect contained in the Deed of Settlement. 29

ALFRED GODFREY, Secretary.

GENERAL MINING ASSOCIATION.—Notice is hereby given that an EXTRAORDINARY GENERAL MEETING of the proprietors in this company will be HELD at this office on Friday, the 15th day of June, 1849, at One o'clock in the afternoon precisely, for the purpose of considering, and, if deemed expedient, of confirming, a resolution of the Extraordinary General Meeting of the proprietors held on the 31st day of May last, for reducing the number of directors of this company to six, exclusive of the director appointed by the representatives of his late Royal Highness the Duke of York. By order of the board of directors, J. B. FOORD, Sec. 30

Office of the General Mining Association, 52, Old Broad-street, London, June 1, 1849.

MENDIP HILLS MINES COMPANY.—At a Special General Meeting, held at the offices of the company, 44, Finsbury-square, on Tuesday, the 22d day of May, 1849, it was

Resolved,—That the reports and accounts now submitted be received, adopted, and entered in the company's cost and transfer books. 31

Resolved,—That the cordial thanks of this meeting be presented to the chairman, for his energetic and persevering industry in conducting the affairs of the company, and for his courtesy and attention in presiding over the business of the meeting.

MEXICAN AND SOUTH AMERICAN COMPANY, 10, New Broad-street Mews, May 28, 1849.—The FOURTEENTH ANNUAL GENERAL MEETING of the proprietors of shares in the Mexican and South American Company will be HELD at the office of the Anglo-Mexican Mint Company, No. 5, Broad-street-buildings, on Wednesday, the 13th day of June next, at One o'clock precisely.

At this meeting a director will be elected in the place of John Schneider, Esq., who retires by rotation, but is eligible for re-election, and will be proposed accordingly. 31

H. W. SCHNEIDER, Managing Director.

OLD WHEAL PROSPER MINE.—Notice is hereby given, that, for the present, NO SHARES CAN BE ALLOTTED, in consequence of a few gentlemen in London being in treaty for the entire mine, who propose to enlarge the capital and carry out the workings on a more extensive scale. 32

C. S. RICHARDSON, Engineer.

RHYMNEY IRON COMPANY.—The HALF-YEARLY GENERAL MEETING of the proprietors of this company will be HELD at the company's offices, 7, Laurence Pountney-hill, on Wednesday, the 20th inst., at One o'clock precisely, By order of the board, 33

7, Laurence Pountney-hill, June 1, 1849. T. E. SCUDAMORE, Secretary.

ST. JOHN DEL REY MINING COMPANY.—The NINETEENTH ANNUAL GENERAL MEETING of the proprietors of the St. John del Rey Mining Company will be HELD at the company's office, 8, Tokenhouse-yard, on Friday, the 8th of June, at Two o'clock precisely. At this meeting one director—viz., J. D. Powles, Esq., will go out by rotation, but is eligible to be re-elected. 34

8, Tokenhouse-yard, May 26, 1849. (Signed) W. ROUTH, Secretary.

JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT,

No. 54, THREADNEEDLE-STREET, LONDON, 35

HAS TO DISPOSE OF

A PATENT RIGHT for BUILDING VESSELS with IRON, on a principle which combines increased strength with greater economy of manufacture.

Also, ONE for the CONSTRUCTION of IRON ROOFS, on a like principle. A specimen of this may be seen as a roof covering one of the retort houses of the Birmingham and Staffordshire Gas Company, by permission of Mr. Clift, the engineer, at the works.

Also, ONE for IRON JOISTS and RAFTERS, and for a plan of joining large plates and sheets of iron.

Also, ONE for the AMALGAMATION of STEEL and IRON—in the progress of the manufacture of the latter, by which a great saving may be effected in the cost of making edged tools.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

Also, SOME COAL and IRONSTONE MINES, FREESTONE QUARRY, and a large FREEHOLD ESTATE.

Also, STEAM-ENGINES and MACHINERY, of all descriptions, and which he is enabled to offer at very moderate prices.

Also, SHARES in a well-known valuable SLATE QUARRY, in CARNARVONSHIRE.

Also, SHARES in, or the whole of, a GAS-WORK, which supplies exclusively a populous town in Shropshire, and which can be greatly extended.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

TO ENGINEERS, BUILDERS, AND ARCHITECTS.

JAMES BOYDELL, 54, THREADNEEDLE-STREET, having been a very large manufacturer of machinery and irregular shaped iron, and having accomplished the rolling of some descriptions of the latter, thought by many to have been impracticable, will be happy to ASSIST any ENGINEERS, SHIPBUILDERS, and ARCHITECTS, in the planning of the details of what IRONWORK they may have occasion for, or bringing to perfection any invention in machinery, as well as procuring such materials for the purpose as they may require.

The Public Works of England.

No. I.—LIGHTHOUSES.

Before the invention of the mariner's compass, beacons and coast signals were indispensable for the safety of the mariner. The vessels whose safe voyaging depended upon their never losing sight of land, trusted to the natural and artificial signs which enabled the pilot to determine his position; and this object was accomplished in many instances by beacon lights, which served for guides during the darkness of night. Around the shores of the Mediterranean we have reason to believe that these lights were thickly studded—the Colossus of Rhodes and the Pharos of Alexandria being the most celebrated. Both of these beacons are supposed to have been erected about 300 years before the Christian era, and to have endured until long after its commencement. Next to these in point of time was a light-tower near Corunna, on the Spanish coast, built, it is said, to aid the Irish navigators in their voyages to Spain—this, at least, is the supposition of Mr. Moore, in his *History of Ireland*—and which Humboldt states to be evidently an erection of the Roman period. The light in all these beacons was derived solely from the flame of wood or pitch burnt in open braziers, and visible comparatively for small distances.

Turning to the lighthouses of modern days, we find that the light-tower of Cordovan, in the Bay of Biscay, is alike the first in point of time, the chief in height and range, and the example for all the improvements that have been successively made in the production and transmission of the warning rays of light to perplexed mariners. This tower was begun by Louis de Foix, in the reign of Henry II. of France, A.D. 1584, and finished in 1610, under Henry IV. It is situated at the mouth of the Garonne, about two leagues from Bordeaux, and serves as a direction to all the coast navigation of the Bay of Biscay, as well as to the large influx of shipping attracted towards the *embouchure* of the celebrated Languedoc Canal, which leads into the Mediterranean. The Tour de Cordovan is 157 feet in height, and its light may be seen in a direct line for 25 miles in clear weather. Even on the Isle of Bone, 38 miles distant, a spectator, looking from some elevated point, may detect the blaze in the horizon; but the curvature of the ocean hides the light from the seaman on deck. Its light is intermitting, changing, at half minute intervals, from white to red. Even the red rays, whose penetrating powers are far inferior to the white, are visible as far as 12 or 14 miles, except in hazy weather. From its erection down to 1780 the light of this tower was derived from the flame of wood. In that year M. Senoir substituted oil lamps, with metal reflectors; and in 1822 M. Fresnel extended the range of illumination to the extraordinary distances we have mentioned above, by the addition of dioptric lenses, acting upon lamps of an improved and more powerful construction. The use of this and similar beacons upon that coast has been enormous. In the era of its first erection one of the Breton counts, who, as lord of the soil, possessed rights of trover and wreckage along the coast, is said to have boasted to a jeweller that a single black rock which stood in the tideway was more valuable to him than the best diamond in his caskets.

In England the earliest lights and beacons along the coast were erected by individuals, to whom Royal patents were granted, authorising them to collect certain tolls from the passing vessels to defray the cost of building and maintenance. The right of constructing those sea signals, however, rested solely with the Crown; and, in fact, the far larger number were used only in times of warlike expedition, and for certain special purposes. The earliest lighthouse which still remains in existence was that of Lowestoft, built in 1609. Another at Hurstbarton Point, on the east coast, was erected in 1665; and the light on the Scilly Isles dates its establishment from 1680. Besides these there were two light towers erected during this period at Dungeness and Orfordness, under patents granted by James I. to Sir R. Howard and Sir W. Erskine. These establishments remained private property, paying only a small quit-rent to the Crown, until very recently, when the Trinity Board, under the Act of 1836, purchased them both at a high price from their owners, Mr. Coke and Lord Braybrooke.

The earliest of the above dates (1609) saw the final establishment of that board under whose control all the English lighthouses, and almost all the authority over English commerce and navigation, was ultimately to pass—namely, the Brotherhood of the Trinity-house. This institution first commenced in the time of Henry VII., as a private confraternity of seamen and shippers. In the sixth year of his successor, Henry VIII., the brotherhood received their first charter as a recognised "Guild," under the title of the "Brotherhood of the Trinity-house of Deptford le Strond and St. Clement." The charter commences with the curious declaration, that "On account of the sincere and entire love, and likewise devotion, which we bear and have towards the most glorious and undividable Trinity, and also St. Clement the Confessor," his Majesty gives and grants licence for the establishment of a guild, or perpetual fraternity, to certain individuals and their associates, "as well men as women." Early in Elizabeth's reign this charter was confirmed, and again in the 36th year of that sovereign, when, for the first time, those powers were granted which have subsequently led to the authority of the Trinity Board over all lighthouses. In that year the Lord Admiral of England, Charles Howard of Effingham, formally relinquished all claims on his part and on the part of the Crown in the rights, privileges, and emoluments for "buoyage, ballastage, and beaconage," which were thenceforth assigned to the Trinity Brotherhood. James II., in confirming this charter, extended the powers of the fraternity, and organised the board pretty much as it still exists. His first patent appoints "Our trusty and well-beloved Samuel Pepys, Esq., Secretary of our Admiralty of England, to be the first and present Master of the said Guild, Fraternity, or Brotherhood." The charter was again enrolled and confirmed by George II., and in the 6th and 7th session of William IV. the Trinity-house received enlarged powers, under which the whole number of lighthouses on the English coasts, many of which had up to that time remained private property, under grants or leases, were repurchased, and amalgamated under a uniform administration. The only exemptions to the rule of the Trinity Board are in the instances of certain harbour lights, which still continue in the control of local trustees.

The dates of the several patents granted to the Trinity-house begin with 1680, when Charles II. authorised the erection of the Scilly Light. Two other patents were issued by that monarch, for the light beacons of Spurn and Tynemouth Castle. Anne granted one patent to the Trinity-house for Milford Haven; George I. granted 4; George II., 7; George III., 15; George IV., 7; and William IV., 5.

The year 1656 saw the foundation first laid for that celebrated structure the Eddystone Lighthouse. Mr. Winstanley was the architect, and the tower stood 60 feet high in a sea whose waves, during heavy storms, dash to an altitude of nearly 100 feet above the lantern. The light was first exhibited in 1698, and burnt steadily for five years, when the whole edifice was swept away by a furious gale in Nov., 1703, while Mr. Winstanley was himself within it. This first lighthouse was formed of courses of stone, bound together with timber, and its destruction is attributed to the comparative lightness of its materials and the slight foundation prepared for it on the rock.

A tradesman on Ludgate-hill, Mr. Rudyerd, then undertook the construction of a tower, wholly of wood. The form was that of a conical cask, 70 feet high, with its lower ranges stiffened and strengthened with courses of masonry. But the chief improvement in this tower was in the contrivance of its foundations. The irregular and shelving surface of the rock was levelled into a range of broad steps. Into these steps a number of holes were drilled, in sets of three each, diverging slightly from above downwards; when the three being broken into one, left a cavity of a conical form, widest at its lower end. A compound wedge of iron being driven tight into this cavity, clamped together, and the interstices filled with melted lead, formed an immovable basis whereto the lower piles of timber or blocks of stone might be secured. This contrivance, introduced by Mr. Rudyerd in his erection at Eddystone, has since been extensively employed in lighthouse and submarine works. The wooden tower bore the brunt of the weather from 1708 until 1755, when it unfortunately caught fire, and, after burning for several days, was totally consumed. Two years later Mr. Smeaton was engaged in founding the present edifice. On the 16th October, 1759, the lights were first shown, and have never since ceased to shine from sunset to sunrise. At first the only source of illumination was derived from tallow candles, which were continued long after the far better method of lighting by means of Argand burners had been extensively used. In 1807, at the expiration of a long lease, the Trinity Board came into possession of the Eddystone lighthouse, in which they at once substituted the oil lamps as they at present exist. The light is revolving, in a period of one minute, and is visible, in clear weather, for 13 miles.

The successive improvements in the mechanical operation of lighting introduced during this period may be thus recapitulated. Up to 1784, open fires of coal, wood, or pitch, were generally used; in some few instances a system of tallow candles, protected by glass frames, being substituted. In that year M. Argand invented the oil lamp known by his name. M. Borda, very shortly afterwards, contrived to adapt the invention to lighthouses. The Trinity-Board were not insensible to the value of this discovery. A deputation, consisting of the deputy master and several of the brethren, visited France to inspect the results, and reported so favourably, that it was speedily adopted in this country, and extended to Scotland and Ireland. In 1789, the suggestion of Buffon and Condorcet, for the manufacture of glass lenses of large diameters, was adopted for a lighthouse in the Isle of Portland, but, owing principally to the imperfect state of the glass manufacture, was found impracticable. In 1811, Brewster invented the method of building large lenses in segments or zones of separate pieces, and recommended the adoption of these infracting or "dioptric" glasses in light-houses. Nothing was done, however, until Fresnel set the example eleven years afterwards in France, where the majority of lights are now constructed upon that system. Only a few, comparatively, of the British lighthouses have to the present day abandoned the use of the reflectors, or "catoptric" lights. Yet the relative power of the dioptric lamps is two to one, and its economy nearly three to one over the reflecting burners, and they transmit no less than 360 times the light of an unassisted flame. On the other hand, there is some additional cost in the first erection of the lenses. Some attempts have been made to employ the still higher illuminating powers of coal gas; but hitherto the difficulties have not been surmounted. The chief obstacle is in the danger of fire and the liability of disorder in the apparatus, which has to be reduced to a small compass within the narrow limits of the light towers, and entrusted too often to the custody of men who are incompetent to conduct the operation. Nevertheless, gas was used in a light-house at San Salvore, on the coast of Istria, as early as 1818, and found to give a better light than oil, with a saving of 900 florins a year. It was also employed in the Dantzig tower, which had formerly been lighted by an open fire of coal, consuming three times as much as the gas apparatus. Wax candles were afterwards employed in the same light-house, and 1080 lbs. weight burnt in a year. Oil flames urged with oxygen gas, and the brilliant "Drummond" or lime light, were subsequently subjected to experiments, with a view to their introduction as sea lights. But the same mechanical difficulties and dangers stood in the way of their adoption, and it was further discovered that a light from a small luminous point, however brilliant, was not so appropriate as that from the extensive surface of the Argand burners, of which no less than 24 were sometimes used in a single lantern. Sir David Brewster also proves that the ordinary quantum of light from the oil lamp is quite sufficient for all maritime purposes in clear weather. Yet the lime light, which casts a distinct shadow at 18 miles distance, might be advantageously introduced as an assistant in hazy weather. At present the obscurity of fogs is compensated as far as possible by gongs, bells, and guns, which are rang and fired at intervals from the beacon towers.

As the lighthouse stations multiplied, it became necessary to contrive some distinguishing mark by which the pilot might determine the one he sought. Various forms and changes of the light were, therefore, introduced, accomplishing nine varieties, viz., the fixed white, revolving white, revolving red and white, revolving red and two whites, revolving white and two reds, flashing, intermittent, double fixed white, double revolving white. As the red rays penetrate little more than half as far as the white, no light must consist of red alone, especially as even white will look red through a dry haze. The other colours are less penetrating still, and therefore wholly unfit. According to the rule laid down by Mr. Stevenson, no two light-houses within one hundred miles of one another should have the same characteristics. The catastrophe of the *Great Britain* steamer is a sufficient evidence of the necessity of observing this rule, as it arose solely from a misapprehension of the light on the Calf of Man. Now that lighthouses are becoming so thickly multiplied, even the nine variations we have mentioned become insufficient; and efforts are making to invent means for making numeral figures visible at great distances when traced in light. Already it is stated that the numbers can be distinguished at a distance of 12 miles.

A parliamentary committee was appointed in 1834, chiefly by the perseverance of Mr. Hume, to investigate the condition and administration of the British lighthouses, and published a voluminous report as the result of their labours. As usual, great mismanagement was proved to exist, combined with an uncertainty and inconsistency in the charges and tolls levied upon shipping, which must have occasioned considerable injury to our commerce. The worst results, however, were found to arise from the system of private management which still existed, either under old grants from the Crown, or in virtue of some very inconsiderate leases by the Trinity Board. The private owners in all case thought only of making a large revenue from their monopoly, and in many instances had omitted to adopt the improvements in lighting universally employed elsewhere, and had occasioned some severe losses of shipping by their criminal negligence. There was one light-tower in the Isle of Man, on the Scotch coast, which belonged to the Duke of Portland, and so late as the year 1810 was lighted by the primitive contrivance of an open coal fire. In that year two frigates of the royal navy, the *Pallas* and the *Jason*, mistook for this light the flame from a lime kiln on the shore of East Lothian, and were lost in consequence. Several lives were sacrificed, besides the two ships, which were worth 200,000*l*. The light-house has since passed into the keeping of the commissioners of northern lights, and is provided with the proper Argand and reflecting apparatus. The purchase money paid to the duke, together with the outlay requisite for the introduction of an improved system of illumination, amounted to 70,452*l*. Proofs of inattention, less in degree but equally unjustifiable, were discovered in other light-houses under private management. It was proved also that while the costs of maintenance were far less than in the navy lights erected by the Trinity Board, the revenues collected were per light somewhat superior, and the net income to the proprietors and lessees 60,392*l*. per annum, drawn from the commerce of the country.

Some curious anomalies were also exposed in the levying of tolls on vessels, for the supposed advantage of the lights. Thus, throughout England a duty of ¼d. to 1½d. per ton was levied on every vessel passing a lighthouse, the rate varying with every light, which had its distinct rules and system of collection. In Scotland, on the other hand, a ship that passed one light paid a certain rate per ton for the whole number, and no more, if it went the entire circuit of the coast. In the voyage from Leith to London, therefore, a vessel of 142 tons would pay 1*l*. 9*s*. 7½*d*. for the Scottish lights, though it passed only one of them; and would have 4*l*. 17*s*. 3*d*. charged for the 19 English lighthouses passed between Berwick and London. A Yarmouth vessel also, bound for the Thames, but driven by stress of weather to the Frith of Forth, would pay for the whole series of Scotch lights, though it had used none, having only been driven into their waters. In Ireland, the charge was made at certain rates on the tonnage of every ship entering an Irish port, whether it had passed a lighthouse or not.

In consequence of the report of the committee of 1834, the Act 6 and 7 Will. IV. was passed. Under this statute all the private rights in lighthouses were extinguished, and bought up by the Trinity-house at a cost of no less than 1,182,546*l*., such was the presumed value of these indispensable monopolies. Of this sum Mr. Coke had 20,980*l*. for Dungeness lighthouse, and Lord Braybrooke 37,896*l*. for the one on Orford Point. The Small's light cost more than four times as much—170,468*l*. But the worst instance was that of the Skerries light-house in the Irish Channel. Queen Anne had granted a patent, in 1715, to Sutton French, Esq., to erect a light-tower off the coast of Anglesea, for the benefit of the Irish shipping, and levy a toll of 1d. per ton on all passing vessels, in recompense of the same. The immense increase in Irish commerce had rendered this light incredibly profitable, as it was kept up at a cost, probably, of under 500*l*. per annum, and the returns were over 20,000*l*. For a long time Mr. Morgan Jones, the representative of the first possessor, resisted all the efforts of the Trinity-house to make him surrender his claim, or even furnish any account of his receipts, alleging that his patent was granted in perpetuity, and without rent or fee to the Crown or other authority. The stringency of the late Act, however, compelled a production of the accounts, and after much litigation a jury assessed the compensation to Mr. Jones at 444,980*l*., being 22 years purchase of 20,042*l*. annual revenue. This transaction closed in 1842, and since then all the English coast lights are under the management of the Trinity-house, and quite free from private claims. Some steps have also been taken towards reducing the tolls which are a heavy burden on commerce, and being levied per voyage, fall with unjust severity on the coasting and packet trade. When the debt for purchase has been extinguished, further remissions are promised.

In Scotland, the earliest lighthouse was that of Cambrae, on Little Cambrae Island, built in 1756, and re-built in 1793. The Leith light was established in 1780, and that on Cape Wrath, completed in 1796, is visible for 26 miles, being the widest range of any British light. The Bell Rock, finished in 1811, at a cost of 61,331*l*., and the Skerryvore Lighthouse in Argyleshire, completed as lately as 1844, for which the estimated cost was 31,500*l*., are the works of most interest in an engineering point of view. Enormous difficulties were overcome in the construction of these edifices, and both remain triumphs of British skill and science. Their details are, however, too well known by the memoirs of their respective engineers, Alan and Robert Stevenson, to justify a repetition. The height of the Bell Rock tower is 100 feet, that of the Skerryvore 138 feet 5 inches. In the lantern of the former there were 24 parabolic reflectors, each 18 inches across the tips, and containing 21*l*. worth of silver on its polished surface. Ireland first possessed a lighthouse in 1768 at Poulbeg, at the entrance of the Dublin river. The Balbriggen light was erected in the following year, that on Clare Island in 1807, and is visible for 15 miles. Cape Clear and Arran lights were built in 1817. The Scellig Rock Lighthouse was the most expensive of the Irish beacons, costing 41,651*l*.

The Isle of Man has seven lights, that of the Calf being the chief. Two beacons, one in Denby Haven, built 1659, and another in Castletown Harbour, built in 1765, are intended to aid the herring fishery, and are lighted only during that season.

At present the British system of lighthouses remains under the control of three boards—1. The Trinity-house Brotherhood, consisting of 31 members, 11 of whom are honorary, and the rest more or less connected with commerce or shipping. Established about 1553.—2. The Commissioners of Northern Lights, holding jurisdiction over the Scotch and Isle of Man lighthouses, consisting of 25 members, being sheriffs and county magistrates. Established 1786.—3. The Dublin Harbour Corporation, otherwise called the Ballast Board, to whom was committed, in 1810, the custody of the Irish lights, consists of 20 members, chosen for life among the chief merchants and bankers, together with the mayor and the sheriffs of Dublin for the time being. One day in each week the board sits for lighthouse purposes.—A number of small lights remain under the control of local authorities and harbour trustees, &c.

The system of lights administered by the three boards above-mentioned, comprised in the year 1844—Trinity-house, 65 fixed and 23 floating lights; Northern Light Commissioners, 32 fixed, 2 floating; Dublin Board 27 fixed, 4 floating; local and harbour lights made up a grand total of 312 British lighthouses. The cost of maintaining the public lights was, on the average, about 500*l*. per annum for the fixed, and 1200*l*. for the floating lights. The gross sum collected by the three boards for 150 lights (local and harbour being exclusive) was 349,475*l*. Of this 131,036*l*. was expended in maintenance, and 15,814*l*. in charges of collection, leaving a surplus of 196,631*l*. on the year's receipts. The charge for collection amounts to 4*l*. 5*s*. per cent., an exorbitant sum, when the Customs duties are collected for 2*l*. 2*s*. 8*d*., and the parish rates for Marylebone at 1*l*. 6*s*. 8*d*. per cent. The tolls are now paid by a rate per ton for every lighthouse passed in the ship's voyage. No symmetry is, however, preserved by the different boards in the rates levied. The Irish Corporation charges ¼d. per ton for every light without exception. The English lighthouses vary their tolls from ¼d. to ¾d.; and the Scotch from ¾d. to 1d. per ton per light. These are for English merchant vessels; foreigners pay double, and Royal Navy ships nothing. Many complaints are urged against the amount of these tolls, and of the injury they inflict on trade. England is the only country, indeed, where the lighthouses are not supported out of the general finances of the State, instead of being made a source of revenue wrung from the shipowner and trader.

Of the original cost of the early lighthouses no accurate account has been kept. Of course the local difficulties occasioned an enormous difference in the necessary outlay on each. The most expensive seems to have been the Bell Rock, 61,331*l*. The Isle of Man Beacon, exhibiting three lights, cost 29,823*l*.; the Cape Wrath, 14,506*l*.; and the Barrhead 12,575*l*. The engineering improvements of modern days have much diminished the expense of their construction: 12 lighthouses erected by the Trinity Board between 1820 and 1834 cost 47,124*l*., or, on the average, 3918*l*. a piece. In the way of receipts, the Bideford Bar light stands lowest; its annual return having been 350*l*., while the cost of maintenance was nearly 800*l*. It is the only losing concern in the whole lighthouse system. Eddystone has four keepers regularly employed; about 12 others, 2; and the rest, 1. The consumption of oil varies from 1200 gallons per annum at Beachy Head to 64 at Pakefield.

France, in 1845, possessed 153 lighthouses—77 in the Channel, 47 on the west coast, 24 in the Mediterranean, including Algiers, and 5 in Corsica. No less than 93 of these were on the lens or dioptric principle. By an ordinance of the Emperor, in 1806, the lighthouses were placed under the control of the Minister of Travaux Publics, and defrayed out of the Exchequer. The cost was about 110*l*. annually per light.

America, at the same date, possessed 272 lights of various descriptions on her seaboard. For the cost of them 83,333*l*. was charged upon the public service of the year, amounting to a little over 300*l*. for each establishment.—*Daily News.*

No. II.—CANALS—will appear in next week's *Mining Journal.*

THE ELECTRIC LIGHT.—On Wednesday evening Mr. Staite again exhibited to the public generally the unrivalled brilliance of the new light. His apparatus for this occasion was carried to the summit of one of the piers of Hungerford Suspension-bridge, that, namely, on the Middlesex shore, and thence he threw the radiance of his magnificent discovery now along the bridge to the multitudes that watched from the Surrey shore the effects of the illumination, now upon the buildings which form Hungerford-market, and now upon the water front of Somerset House, and upon Waterloo-bridge, and the steamers passing up the river; but wheresoever it lighted, the beam dazzled the beholder, whilst it discovered to its controllers the minute characteristics both of dress and architecture. The power of the light is well known; but what is interesting to all who desire the progress of scientific discovery, and the application of it to the uses of society is, that Mr. Staite has been most successful in effecting and maintaining the relative adjustment of the two points, or opposite poles, which occasion the luminosity. This has been one grand desideratum, which, we believe, he has attained through means of the electric current itself, so that it is self-acting, and by apparatus even more economical of mechanic contrivance than we had the opportunity of witnessing. His efforts are now turned towards making his discovery economically applicable, and they have hitherto been most successful. It may be interesting to those who saw the brilliance of his light on Wednesday night, collected, as it was, into one focus by a reflector thrown behind, to know that the power of it is estimated at 750 candles. His apparatus constructed for domestic use gives a light equal to from 8 to 40 candles, with this singular advantage, that the blaze can be produced and retained under an air-tight glass shade, so as to prevent the possibility of ignition.

NEW MATERIAL FOR PRINTING TYPES.—On Saturday last, a new invention, which is called the apyrotype machine, was submitted for inspection at a meeting of the Royal Society, and elicited the highest approbation of many of the most eminent members of that body; it is also now in course of private exhibition in Bartlett's-buildings, Holborn, with the view of bringing it under the notice of practical men, in order to promote its introduction into actual operation. The object of this invention is, by means of self-acting machinery, to manufacture printing type not liable to the fragility, softness, and rapid deterioration—the much-complained of defects of the type at present in use. These defects arise from the use of an alloy fusible at a low temperature—the metal possessed of that property being destitute of the degree of hardness requisite for producing those numberless impressions of the "broad sheet" which have now become one of the prime wants of modern civilisation. This desideratum is secured by the use of hard metals—such as zinc, copper, and even iron; and, instead of fusing the metal, and pouring it into moulds, to give it the required form, the type is manufactured by a mechanical operation at ordinary temperatures, chiefly by means of powerful pressure, and the use of steel dies. The exact durability of the article thus manufactured has yet to be ascertained by experiment; but the superiority of copper, even in its ordinary and uncompressed state, is estimated by practical persons to exceed the material now commonly used in the proportion of 100 to 1. This invention, the credit of which is due to a Frenchman, named M. Petit, who has laboured unremittingly for the last seven years to bring it to its present degree of maturity, is regarded by many as destined ultimately to constitute quite a new era in the art of typography.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Asiatic—5, New Burlington-street	3	P.M.
MONDAY	Entomological—17, Old Bond-street	8	P.M.
	British Architects—16, Grosvenor-street	8	P.M.
	Chemical—Society of Arts, Adelphi	8	P.M.
TUESDAY	Linnean—Soho-square	8	P.M.
	Horticultural—21, Regent-street	1	P.M.
	Civil Engineers—25, Great George-street	8	P.M.
THURSDAY	Antiquaries—Somerset-house	2	P.M.
	Zoological—11, Hanover-square	3	P.M.
FRIDAY	Royal Institution—Albemarle-street	8½	P.M.
	Astronomical—Somerset-house	8	P.M.
	Philological—London Library, 12, St. James's-square	8	P.M.
SATURDAY	Royal Botanic—Inner Circle, Regent's Park	3½	P.M.

ROYAL INSTITUTION.

Mr. Faraday's fourth lecture on Static Electricity was delivered on Saturday, to a very crowded audience. The curious property and phenomena of induced electricity formed the principal subject of the discourse, which was illustrated with a great variety of well-contrived and curious experiments. In the first place, he exhibited the simple phenomenon of induction, by showing the action of an excited glass rod at a distance from the electrometer, and its power of communicating electricity to an insulated brass cylinder without touching it, and by that means setting fire to gas. The induction of electricity in these instances takes place through the air, which is a non-conductor, and the power increases when more perfect and solid non-conductors are used, as was exhibited by interposing a great thickness of sulphur and shellac between the electric fluid and the electrometer. The more perfect insulators transmit induced electricity with greater facility than imperfect ones; and it has been ascertained that sulphur is 2½ and shellac 2½ more effective than air in transmitting induced electricity. The power which one electrified body possesses in inducing electricity in all other bodies has no known limit, and may be supposed to extend through infinite space, though the intensity diminishes in a greater ratio than the distance. As an illustration of the extended influence of induction, a large metal globe was suspended at a considerable height in the lecture room, and having been charged with electricity, the extent of its influence was shown by collecting electricity, by holding a small piece of insulated gold paper towards it, by which means sufficient electricity was collected to diverge the leaves of the electrometer. The charged metal globe, Mr. Faraday said, might be considered as a small thunder cloud; and in a subsequent lecture, when treating of atmospherical electricity, he should have to remark on the important effects of induction on the large scale. A very remarkable characteristic of static electricity is, that one kind of electricity cannot be excited without the other kind, and this is peculiarly manifest in electrical induction. When an excited glass rod is held near to any body, the glass being positively electrified, induces negative electricity in that part of the body nearest to it, and positive electricity in the part most remote. If the body be insulated, and the positive electricity be drawn off by a momentary connection with the earth, it is left in a negative state when the glass rod is withdrawn. For the purpose of showing that when electricity is induced in metals they convey it along their surfaces only, and that the inside of a metallic vessel contains no electricity, an ice pail was electrified, and though the outside gave abundant evidence of electricity, a metal ball lowered inside to the bottom did no effect the electrometer. A white mouse was enclosed in a wire gauze cage, and being placed on an insulated stand, and connected with the electrical machine, very powerful sparks were taken from all parts of the gauze without disturbing the mouse, which seemed quite unconscious of the miniature lightning storm around it. As a further illustration of this curious property, several brass pillars were arranged in a circular form on an insulated metal stand, and though there was the space of half-an-inch between each pillar, the interior of the skeleton cylinder gave no trace of electricity, which was emitted in strong sparks from the outside of the rods. Induction affords an explanation of the apparent repulsion of bodies similarly electrified. Some strips of paper, on being held together at one end, started far apart when in connection with the prime conductor of the machine, as if repulsive power acted on each strip, and when both ends were fastened the strips distended in the middle like a balloon. This apparent repulsion was, however, shown to be entirely due to the attractive power induced in surrounding bodies, for when the balloon was partially inclosed by the hands, the stronger attraction caused by increased proximity, caused it to distend with much greater energy. As electricity is induced through the intervening substance of a non-conductor, the inside of a vessel made of shellac or glass will contain electricity as well as the outer surface, in which respect non-conductors differ essentially from metallic substances. The same principle on which Mr. Faraday explained the cause of metallic vessels not containing electricity, he also applied to explain the cause of electricity being much more readily emitted from angles and small balls than from large balls and flat surfaces; but this part of the subject was hurried at the conclusion, and was not made so clear as Mr. Faraday's illustrations generally are.

SOCIETY OF ARTS.

On Wednesday evening, a paper was read at the society's rooms illustrating an electric telegraph, which has been invented by Mr. E. W. Siemens, of Berlin, and is now in successful and constant operation on numerous lines of communication in Germany. Mr. C. W. SIEMENS, brother to the inventor of the instrument, was present, and fully explained its working; two or three diagrams were exhibited to demonstrate the internal machinery; and working models of this beautiful invention were present, and were referred to in explanation of its operations. The galvanic current is made to traverse a coil of wire surrounding a horse-shoe magnet in the usual way, between the poles of which is placed a steel bar, vibrating upon a fixed pivot. The oscillations of the bar, when actuated by the moving force of magnetism generated by the circulation around the magnet of the galvanic current, are made to act upon a cogged wheel, which is liberated tooth by tooth. The resulting movement is adapted to the peculiar combination of the instrument by means generally similar to those employed in other systems. There are, however, some new arrangements introduced in this, which impart a property to the instrument peculiar to itself, or at any rate distinguishing it from many. In all the electro-magnetic telegraphs hitherto known, the break and restoration of the current, which causes the telegraph to work, is effected by means of movement of hands, or clockwork; the speed wherewith these successive breaks and restorations of the current follow one another, and also the duration of each current, is independent of the amount of the working power, and of the resistance of the apparatus. In a mechanical point of view, all former telegraphs may be compared to the first steam-engines, in which the steam-valves were worked by hand, and not by the machine itself. The principal feature in this invention consists in breaking and restoring the galvanic current by means of the electro-magnet itself, at the moment when the revolution, or movement, of the armature to the one or the other side is at an end. Mr. Siemens' telegraph, therefore, is a self-acting machine, the speed of which is dependent on the amount of the acting power (galvanic current), and when put in motion, it continues to work until it is stopped, by preventing, at any time, the restoration of the current. By this is obtained increased certainty and union of power, which renders the instrument more independent of influences of all descriptions, at the same time making it more easily manageable.

It is now clearly understood that in the vibrating needle of Wheatstone, the current does not cease to act with sufficient abruptness, and the result is, that the needle continues to vibrate for a longer interim than it ought, thereby vitiating the certainty of the indications. In Brett and Little's telegraph this source of error has been cut off, and the one now brought before the Society, also claims to be free from it. The mode in which this end has been attained, is by causing the current to be wholly broken off by destroying the circuit, before the stroke of the bar is completed, which is performed by the action of the apparatus. The letters of the alphabet are arranged on keys round a circular dial-plate, and upon pressing any of them down, the needle stops at the adjoining point on both instruments. The correspondent may sit at the desk and work the instrument with his left hand, having his right one at liberty to take down any required memoranda. Should either of the correspondents wish to stop the communication for any purpose, he may, by pressing a button which is fixed in his telegraph, stay the working of each of the instruments for as long a period as he may require.

The advantages obtained by Mr. Siemens's arrangement are, the harmonious working of the instrument is much more secure than in those telegraphs where the current is broken, and restored by hand or mechanism, because the speed of the movement is dependent upon the current; the working of the instrument is readily understood, and requires no skill or precautions; losses of electricity, caused by bad insulation of the line wire, may be very considerable, without disadvantage to the working of the instruments, for the following reason—the electric current is broken in each instrument independently, and just in that moment when the attraction of the armature is completed, the return stroke of which is entirely secure, however deficient the insulation may be. These instruments can be so constructed, as to work with any required speed, and with any reasonable amount of battery power, by altering the length of the stroke of the arm, the magnets, and the moving masses. One of the many advantages of the telegraph is, that currents of only very short duration pass through the circuit stream, producing a small portion of that magnetism which would result from a longer duration of the same current giving separate signals, which require greater intensity of current, merely by excluding the instruments from the circuit. These separate signals may be used, either to release clock-work, for ringing bells, in any of the railway stations, or to connect other branch telegraph lines. Any sort of alarm instrument may be used in connection with this telegraph.

A telegraph on this principle, between Gross Beeren and Berlin, has been in successful operation for two years and a half; another, since then, has been

completed between Frankfort-on-the-Maine and Berlin, a distance of 350 English miles. A proof of its success is, that the debates of the German Parliament at Frankfort are published in Berlin on the following morning. Another line, from Berlin to Cologne, *viâ* Magdeburg and Hanover, is opened as far as Magdeburg. One from Berlin to Vienna, and several others, are either commenced or in contemplation.

Mr. Siemens has, likewise, obtained from the Prussian electric commission a certificate, that during the six months' trial of his telegraph between Potsdam and Berlin, which line is continually engaged in transmitting Government dispatches, no irregularity had occurred. Mr. Siemens, in the erection of his telegraph, has discovered that wire, insulated in gutta percha, and laid in the ground, is perfectly secure against any external and atmospheric causes, and its work has never been impeded, or in the slightest degree affected; but wire, suspended in the air, although coated with gutta percha, was not secure against atmospheric influences. A pair of Mr. Siemens's instruments have been deposited at the offices of the General Telegraph Company, John-street, Adelphi, and can be inspected by parties interested in the progress of the electric telegraph.

After Mr. Siemens had read his paper, a gentleman handed to the chairman an old work, entitled, the *Universal Library, or Compendium of Science*, published 1712, in which was an account of the possibility of a proposed telegraphic communication between London and Vienna, by means of the magnet and the electric fluid alone. We may mention, that the fact of the transmission of the electric current to great distances, was proved by Dr. Watson and friends, on the 14th July, 1747. They conveyed the shock across the Thames at Westminister, transmitting it at a curcuit of four miles—two of water and two of dry ground. We may also refer to an interesting chronological history of the electric telegraph, which appeared in the *Mining Journal* of July 3, 1847.

Mr. A. Dunn read a paper, and accompanied it by experiments, on the application of electricity to prevent the explosion of steam-engine boilers—the tenor of which, however, was the same as the lecture delivered by him at the City of London Literary and Scientific Institution, and reported in the *Mining Journal* of the 12th of May. The following data of experiments, with regard to the spherical nature of water, were adduced:—

Experiments on the Spherical State of Water in a Mercury Bath.

Polished tin dish, the water burst into vapour at about 350° Fahr., using hot water.—[*Note.* The water remained a considerable time in the spherical state, after the lamp was withdrawn from the bath.]—This was repeated several times with the same result, and, in the end, the thermometer was broken; but the actual temperature was taken during the experiment.

With a rough iron dish, the bath required heating to 430° to 435° Fahr., to render boiling water spherical; and, when once in that state, it remained so down to about 415° Fahr., when it burst into steam.

With cold water, and the same iron dish, the bath showed a temperature of 455° to 460° Fahr., before the water assumed the spherical state; but it remained so until cooled down to about 370° before it burst into steam.—[*Note.* After the thermometer was broken, another one was used, and the temperature was taken as quickly as possible, by plunging it into the bath, taking the iron dish out,]

Polished dish burst into vapour at 350°.
Iron dish and rough surface, with hot water ..... 435°
Burst into vapour at ..... 415°—Difference, 20°.
Iron dish and cold water ..... 460°
Burst into vapour at ..... 370°—Difference, 90°.

Difference between the temperature of dish for hot and cold water—25° Fahr. more for the cold.—[*Note.* The water, when in the spherical state in the iron dish, was stirred about with a stick: and, as long as the heat was kept up, it did not burst into vapour, showing a state of rest not to be essential.] Each experiment was repeated several times.

The thanks of the society were voted to the authors of both papers, and the session closed.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Llanelly Railway and Dock Company—offices, at One.
Grand Union Canal Company—offices, at Eleven.
Albion Plate Glass Company—offices, at Twelve.
Basingstoke Canal Navigation Company—Gray's Inn Coffee-house, Two.
National Disinfecting and Dry Manure Co.—King's Head, Poultry, Two.
TUESDAY.....Bank of British North America—offices, at Twelve.
West Flanders Railway—London Tavern, at One.
Grand Junction Canal Company—Whittington Club, Strand, at Eleven.
Professional Life Assurance Company—offices, at Twelve for One.
Dacca Sugar Company—offices, at Twelve.
WEDNESDAY ..Regent's Canal Company—offices, at One.
Gravesend and Rochester Railway and Canal Company—offices, at One.
Guardian Assurance Company—offices, at Eleven.
British Commercial Life Insurance Company—offices, at Twelve.
THURSDAY ....Derwent Mines Company—offices, at One.
Waterloo Bridge Company—Freemason's Tavern, at Twelve.
Great Northern Railway—London Tavern, at Twelve.
Equitable Assurance Company—offices, at Eleven.
Hammersmith Bridge Company—British Hotel, Cockspur-street, at One.
FRIDAY.....St. John del Rey Mining Company—offices, at Two.
London and Birmingham Railway—Euston Station, at Two.
Church of England Assurance Company—offices, at Twelve.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

The seventeenth half-yearly meeting of this company, which was incorporated by Royal Charter on the 31st December, 1840, was held at the London Tavern, on Thursday, the 31st May.

Mr. J. Matheson, M.P., the new chairman of the company, having been called upon to preside, the hon. gentleman returned thanks to the shareholders for the honour they had conferred upon him in placing him in the chair. That was the first occasion in which he had had the honour to appear before them as chairman, and he, therefore, claimed the indulgence of the shareholders, should any difficulty arise in the course of the business from his want of experience, through not having before attended their meetings. (Hear, hear.) He could assure the proprietors that he esteemed it a very high honour to be connected, as he had recently become, with the direction of a company which had hitherto stood in a high position for the excellence which had distinguished the management of their concerns, for the satisfactory manner in which they had performed their duties to the public, and, above all, for the inestimable benefits conferred on the nation at large, particularly in having accelerated the communication with that magnificent empire which England had established in the East—(cheers)—which might be said to have been brought to their very doors, instead of being separated from them, as it had hitherto been, by a long voyage. (Hear, hear.) He believed it was in the power of that company still further to accelerate the communication with the Indian empire, if they were permitted to carry out the necessary arrangements by the Government and the East India Company. (Hear, hear.) He was sure that he might say for his brother directors, as he would say for himself, that all their energies should be devoted to promote that object whenever a suitable opportunity occurred. (Cheers.) He would not then detain them longer, but would call upon the secretary to read the notice convening the meeting.

Mr. Howell then read the notice convening the meeting, which was stated to be for the sole purpose of receiving the report of the court of directors, and declaring a dividend for the half-year ending the 31st of March, 1849, the minutes of the annual meeting held on the 31st December last, and the following

REPORT.

The Deed of Settlement of the company prescribes that the half-yearly meeting of proprietors shall be convened, "for the sole purpose of declaring a dividend and receiving the report of the directors," the statement of accounts being directed to be furnished at the annual meetings only. The directors are enabled, however, to assure you that the result of the company's operations is such as to warrant their recommending a declaration of the usual dividend of 4 per cent. for the half-year ending 31st March last.

Insurance Fund.—The directors are also enabled to report, that no casualty from sea risk has happened to your fleet during the last 12 months—a circumstance which, combined with the termination of many of the policies, and the consequent discontinuance of the payment of premiums, has proportionately increased this fund.

Transit through Egypt.—It was stated to you, in the last annual report, that the present Viceroy of Egypt, Abbas Pacha, had intimated a willingness to improve the transit arrangements for the overland route through that country. The directors, considering that it would be of great importance to the interests of this company, and even in a national point of view, that a good understanding with the new Viceroy should be established and maintained, determined to send a mission to Egypt, to present to his Highness an address of congratulation on his accession to the government of that country, and also to press upon his attention the further improvement of the transit. Your deputy-chairman, Sir John Pirie, having kindly consented to proceed to Egypt for this object, an address of congratulation was prepared, and the necessary instructions were furnished to him. He has very recently returned from Egypt, and it is with much gratification that the directors have to report the entire success of his mission. His Highness the Pacha received Sir John with marked distinction and courtesy, and readily acquiesced in every suggestion made to him for the improvement of the transit; and his Highness was moreover pleased to declare, that the increased expense consequent thereupon would be of secondary consideration to the perfecting the transit through his country. His Highness has authorised the directors to order for his account one additional steam-vessel, for the Nile, to be fitted with all the improved accommodation which experience suggests. Also two paddle-wheel steamers for the Mahmoudieh Canal. These canal boats will be devoted to the conveyance of passengers only, and the baggage will be conveyed in future by track boats. These two steamers will be a most important addition and improvement to the canal transit, which has hitherto been considered the most inconvenient part of the journey, and they will accordingly be fitted in the most commodious manner, and sent out with the utmost dispatch. A small steamer, now building at Boulac, will shortly be placed at Suez, for the embarkation and landing of passengers and baggage from the India steamers, which will be productive of great comfort and convenience. A considerable improvement has already been effected in the landing and embarkation of passengers and baggage at Alexandria, and commodious store-houses have also been erected there, and at the Mahmoudieh Canal. The occasional difficulties and delays at Atfeh will, in future, be avoided by the intended erection of a jetty and landing place there; but, in most cases, the new canal steamers will pass through the locks, and go alongside the Nile steamers, and the change from one to the other will thus be easily and conveniently effected. The navigation of the canal is to be improved by deepening, for which object three dredging machines are now in operation. Besides these intended improvements, others of much importance have already been recently effected. The route of 82 English miles, between Cairo and Suez, has been partly macadamized, and is divided into 16 stations, at each of which horses can now be changed in from 6 to 10 minutes, whereas formerly this operation usually occupied from 20 to 30 minutes. The whole distance, from the Nile (say Cairo) to the Red Sea, can now be performed, in comfortable vehicles, in from 16 to 18 hours, of which about 10 hours are occupied in actual travelling on the road, and the remaining portion in the rest taken at meals, &c., and in changing horses. The present superintendent of transit, Hereden Bey, recently appointed by the Pacha, is a very active and intelligent gentleman, acquainted with the requirements of European habits, and anxious to adopt every practical improvement; as an instance of which, the contract for the provisioning arrangements on the Nile and Desert has been entrusted by the Transit Administration to the management of an Englishman, who intended to employ English servants throughout the line, and the directors are informed that considerable improvements have already been made.

Steam Communication with Australia.—In their last annual report the directors stated the basis of a proposal which, in answer to a public advertisement inviting tenders, they had submitted to Her Majesty's Government for establishing a monthly postal communication by steam-vessels between Singapore and Sydney. It appears that parties who were occupied in endeavouring to form a company, also submitted proposals to the Government for the same object. No decision as to the establishment of the contemplated communication has yet been made known by the Government, and the directors have been informed that the parties alluded to have withdrawn their proposal, and have abandoned any further attempts to establish the projected company.

Contract for Conveying the India and China Mails between Southampton and Alexandria.—The proprietors were informed, by circular, of the renewal of this contract, on the terms proposed by the directors to the Government, in answer to the advertisement, and after the decision of the Government had been protracted by tenders made by the same parties who have been alluded to in reference to the Australian communication, but who ultimately failed to satisfy the Government as to their ability to carry into effect their proposals.

Parliamentary Committee to Inquire into the Contract Packet Service.—You will have observed, by the public journals, that a select committee of the House of Commons has been appointed for the above object, and is now sitting; also that, one of your managing directors has been nominated a member of the committee. The directors allude to the circumstance, at present, merely for the purpose of expressing their satisfaction that such an inquiry has been instituted, feeling, as they do, confident, that as far as the interests of this company are concerned, it will have a beneficial tendency, by eliciting facts connected with the origin and progress of the company, and its employment in the contract mail service, which cannot fail to show the important national benefits which your enterprise has been the means of realising, and its consequent claim to public support

Further Improvement of the Steam Communication with India.—The discontinuance by Government of the conveyance of the branch of the India mail which departed from Southampton on the 3d of the month, was noticed in the last annual report. The strong feeling of dissatisfaction which this disarrangement of the communication occasioned, particularly at the Bombay Presidency, as manifested by the various memorials sent from that quarter, together with the knowledge by the directors that this company possessed the means of not only remedying the evil complained of, but also of effecting an important improvement, and a very large reduction in the expense of the Bombay branch of the India mail communication, induced them to submit a proposal to the Government to the following effect—viz., to re-establish the communication of the 3d of the month between Southampton and Alexandria; to accelerate and otherwise improve the communication between Suez and Bombay; also, to accelerate and improve the mail service between Marseilles, Malta, and Alexandria. The proposed additional and improved communications to be established and maintained on terms which would effect a very large reduction to the public, as compared with the cost of the existing means of communication. The directors have not yet received any definite reply to this proposal, but looking to the important public advantages which it involves, they consider that it cannot long fail to receive that attention to which its merits entitle it.

Establishment of a Branch Line of Steam Communication between Hong Kong, Macao, &c., and Canton.—The company's new steamer, *Canton*, has commenced running on this line, and has been found well adapted in every respect for the service. Her earnings to the date of last advices (31st March) had been remunerative, and she had been found to be an important auxiliary for increasing the traffic of the main line. The merchants of Hong Kong were forming an arrangement with the company's agent, for availing themselves of her services as a branch postal communication with Canton, Macao, &c., and being efficiently armed for defence against the piratical craft with which the Canton river is infested, she was found to present superior security as a means of conveyance.

Election of an additional Director.—The directors considering it expedient to add one member to their present number, have apprised you by circular of that intention; and accordingly, a special meeting will be held on the conclusion of the business of this half-yearly meeting, for the purpose of electing a qualified proprietor to that office.

The directors are not aware of any other points to which, on this occasion, it is necessary for them to advert, and have, therefore, in conclusion, only to state that the company's affairs continue to progress satisfactorily, and they feel assured that the statement of accounts which it will be their duty to submit to you at the next annual meeting, will be such as to merit your entire confidence in the soundness of the undertaking, and in the efficiency of its management.

The Chairman stated that, the report having been read, he should be happy to hear any remarks relative to it from the proprietors, or to answer any questions which they might wish to put.

A Proprietor wished to put a question to the chair, which he felt sure would be readily answered. During the past year they had received a bonus from their property; and, as they had heard lately of companies which paid their dividends otherwise than from profits, he wished to ask whether the dividend now proposed was to be paid wholly out of profits, or whether there was to be any entrenchment on the reserve?—The Chairman replied, that the dividend would be paid, as usual, out of the clear realised profits of the company. (Cheers.)

Dr. Beattie wished to know whether the dividend would be paid, as hitherto, clear of income tax—no notice of that fact being contained in the report.—The Chairman replied, that the dividend would be paid exclusive of the income tax. (Ceeers.)

Dr. Beattie rose with great pleasure to move that the report be received, adopted, and circulated amongst the proprietors. He felt assured that the resolution would be unanimously carried, and congratulated the proprietors on the admirable manner in which the necessary operations of the company had been conducted during the last six months. (Cheers.)

Mr. Cane rose to second the motion. In doing so, he could only express the gratification he felt at his good fortune in being in town to take part in the proceedings of the company. It had never before been his good fortune to be in London at the time when their meetings were held, and being an Irish proprietor, resident in that part of Ireland in which he believed the idea of forming the company originated, it gave him the greater pleasure in taking part in their proceedings. (Cheers.) The report was so satisfactory, encouraging, and gratifying, that he felt he need not detain the proprietors further in seconding its adoption.

Mr. Richardson considered the report exceedingly gratifying, and that the proprietors ought to be much obliged to the directors for it. There was one point peculiarly gratifying, to which he wished particularly to call attention—viz.: the acknowledgment of the principle that the directors ought to be elected by the proprietors. He hoped that that principle would continue to be acted upon in future; and he believed that in the present instance it would result in the election of a gentleman to the board, immediately connected with India, which had always been considered by a large body of the proprietary as a matter of great importance. He looked forward with pleasure, therefore, to the election of Mr. Hadow.

The Chairman did not wish to interrupt the honourable proprietor; but, as a special meeting was to be held at the close of the regular business, for the purpose of electing an additional director, he thought his observations would come with greater propriety then.

Mr. Richardson having bowed to the intimation of the chairman, the motion was put and unanimously carried.

Captain Maxwell moved the declaration of a dividend of 4 per cent. for the half-year, clear of income tax, payable on and after the 22d inst.

Mr. C. Smith seconded the motion, which was unanimously carried.

Mr. De Salis said, that from the report it would be seen that they were under deep obligations to their deputy chairman, Sir John Pirie, which he was sure they would be glad to embody in a resolution. (Hear, hear.) The company had obtained considerable facilities for the transit of their passengers and merchandise through Egypt, which they must all feel to be of the utmost importance. It was to the great exertion, peculiar tact, and admirable management of their deputy chairman that they were indebted for those advantages; and he, therefore, begred to move that the thanks of the proprietary are due, and are hereby given to Sir John Pirie, for the valuable services rendered by him to this company by his mission to Egypt; and that the directors are hereby authorised to present, on behalf of the proprietors, some desirable and suitable testimonial to that gentleman, as an acknowledgment for those services. (Ceeers.)

Mr. Edwards had great pleasure in seconding the motion. Sir John had not only done them great service by the way in which he had attended to the interests of the company during his mission to Egypt, but, as was well known to the proprietary, had for many years been an active and efficient member of the board of directors. (Cheers.)

General Briggs said that, before the resolution was put, he should like to ask what was proposed to be the nature of the testimonial to be presented to Sir John—was it of an honorary or a pecuniary nature? Sir John Pirie had been employed by the company on a public duty, and most credibly had he performed it. (Cheers.) Of course, the expense incurred by Sir John had been paid by the company, and though he (General Briggs) did not object to a testimonial being presented to Sir John for his services—the value of which he fully admitted—he thought the resolution as proposed too vague, in not expressing in what shape the testimonial should be given. (Hear, hear.)

Mr. Morris thought as, in the words of the circular calling the meeting, they were convened together "for the purpose of receiving the report of the court of directors, and declaring a dividend for the half-year," and they could not then legally entertain any other business.

Mr. De Salis believed that the proprietors would generally approve of the resolution, and that was the reason which had induced him to bring it forward.

Mr. Anderson, M.P. (a director), stated that as the only objection to the resolution appeared to be a legal one, perhaps the solicitor would state his opinion respecting it.

Mr. Browning (the solicitor) stated, that he had no doubt that a question such as that before the meeting could be entertained on the motion of an individual proprietor. The motion immediately arose from what was contained in the report, and being brought forward, as he understood it, quite independent of the board might, in his opinion, be fairly considered. (Hear, hear.)

Mr. De Salis wished it to be distinctly understood that the resolution had not originated with the board—(hear, hear)—but in a conversation which had taken place among a few proprietors just prior to the meeting, on reading the report of the directors. (Hear.) He thought that the shareholders would generally consider that he was fully borne out in proposing the resolution by the importance of the services rendered to the company by Sir John. (Hear, hear.)

Mr. Morris fully concurred with the hon. proprietor that the motion was one which would meet with the approbation of every shareholder—(hear)—but he doubted the legality of its being put at that meeting. If it was necessary to hold a special meeting to elect a new director, surely they could not pass this resolution without holding a special meeting for that purpose.

Mr. Hadow suggested that the vote of thanks to Sir John, being purely of a complimentary nature, might be at once passed; but that the presentation of a testimonial being a question which touched their capital, the hon. proprietor should give notice of his intention to bring it forward at the next meeting. He, therefore, thought that if the motion was so amended, as to make it a recommendation to the board to consider, prior to the next meeting, what would be a suitable testimonial to present to Sir John, it would meet with general approbation. (Hear, hear.)—Mr. De Salis stated that he would have no objection to adopt the suggestion of the hon. proprietor.

Mr. Anderson said, that the resolution, as handed up to the chairman, appeared to him merely to propose that a vote of thanks should be presented to Sir John Pirie, which he was sure no one would object to—(hear, hear)—and that the remaining portion was only expressive of an opinion that something further should be done in acknowledgment of the hon. gentleman's services. (Hear.) As far as he understood the matter, that was the intention of the resolution, and as far as he could understand the feelings of Sir John Pirie, that vote of thanks would be most gratifying to him. He was sure that it was not proposed to give, nor Sir John would not wish to receive, a pecuniary reward, though some honorary testimonial of his important services might be gratifying to him.

After some further conversation, the vote of thanks was carried by acclamation, with the proviso that the directors should consider on a suitable testimonial to be presented to Sir John Pirie, and report their opinion on the subject, at the annual meeting of the proprietors.—Sir John Pirie said, that it became his pleasing duty to return his grateful acknowledgements for the kindness with which the resolution had been passed. He was perfectly of opinion that any testimonial which it might be thought proper to present to him, ought to be left to the proprietors to determine upon. (Hear, hear.) At the same time, he wished it to be understood that he desired nothing more than their thanks, and having received that he was perfectly satisfied. (Cheers.)

The regular business having been terminated, a special meeting was held, for the purpose of electing a director, in addition to the present board. The notice convening the meeting having been read, the Chairman stated, that only one candidate, Mr. Hadow, had offered himself for the vacant office.

General M'Leod had great pleasure in proposing the election of Mr. Patrick Douglas Hadow as a member of the direction. (Cheers.)

General Briggs begged to second the motion. He had been in the frequent habit of looking into the office of the company, and he had always found Mr. Hadow busy examining the accounts, and making himself master of his duties as a proprietor. His acquaintance of Mr. Hadow was confined to meeting him in that house, though he knew and highly respected his father, but he was sure that they could not find a gentleman who was better fitted for the office of a director. (Cheers.)

The resolution having been unanimously carried, Mr. Hadow begged to return his grateful thanks for the honour conferred upon him. He had always taken great interest in the affairs of that company, which, as had been truly said by the chairman, was a most important link in the connection, both morally and politically, with their Indian empire; but he felt, now that he had become more closely connected with it through the kindness of the proprietors, that that interest would be enhanced. (Hear, hear.) Whatever opinion he might hold of the arrangements which had been entered into at the formation of the company, there could be no doubt that they were deeply indebted to the directors, especially to those gentlemen to whom the management was more immediately confided, for the success of the undertaking, and their present prosperous condition. He rejoiced to think that before they met again the vacancy amongst the managing directors, caused by the lamented death of their late friend Mr. Carleton, would be filled up by the appointment of a gentleman who had always proved himself a zealous and able officer of the company—Mr. Allan. (Cheers.) For himself (Mr. Hadow) he could only state, that he had paid great attention to the affairs of the company, especially as regarded the manner in which it was conducted in the East, with which he was connected by having his father and several relations living there; that he would continue to give that attention to the best of his ability, and he hoped hereafter to merit a continuance of the confidence which they had that day reposed in him. (Cheers.)

A cordial vote of thanks was then given to the chairman and directors, which having been briefly acknowledged, the meeting separated.

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S FLEET.

SUEZ AND CALCUTTA STATION.				
Bentinck	*Tons*	1800	520	*Horse-power.*
Precursor	„	1600	500	„
Haddington	„	1500	500	„
Oriental	„	1600	500	„
BOMBAY AND CHINA STATION.				
Pekin	*Tons*	1180	430	„
Achilles	„	1000	420	„
Malta	„	1225	450	„
Pottinger	„	1400	450	„
Braganza	„	800	280	„
Lady Mary Wood	„	650	260	„
CANTON RIVER STATION.				
Canton	*Tons*	400	150	„
SOUTHAMPTON AND ALEXANDRIA STATION.				
Hindostan	*Tons*	1800	520	„
Indus	„	1400	450	„
Ripon	„	1500	450	„
CONSTANTINOPLE AND BLACK SEA STATION.				
Sultan	*Tons*	1100	400	„
Euxine	„	1100	400	„
Tagus	„	900	280	„
Erin	„	850	280	„
PENINSULAR STATION.				
Montrose	*Tons*	650	240	„
Iberia	„	600	200	„
Pacha	„	600	210	„
Jupiter	„	600	260	„
Madrid	„	500	160	„

SOLICITORS' AND GENERAL LIFE ASSURANCE SOCIETY.

The third annual general meeting of the shareholders of this society was held at the Gray's Inn Coffee House, Holborn, on Wednesday, the 30th inst.

It was proposed by Mr. Donne, and seconded by Mr. Morris, that John Thomas Church, Esq., do take the chair, which, having been done,

The Secretary (Mr. Gill) read the advertisement, and also the minutes of the former meeting, which were confirmed. He then read the following

REPORT.

Your directors, in submitting to the shareholders a statement of the business transacted during the past year, cannot but congratulate them on the very satisfactory position which the society has attained in this the third year of its operations. Your directors beg, therefore, in as concise a manner as possible, to state the facts which warrant them in such congratulations. During the past year the society has received 235 proposals for assurances, to the extent of 118,514*l.* 0s. 8d., and has issued 205 policies, covering assurances to the amount of 95,069*l.* 1s. 8d. producing an annual premium of 2797*l.* 18s. 10d.

It will be seen, on reference to your director's report of the 30th of May last, that the society had then issued 391 policies, for sums amounting to 209,925*l.* 4s., at an annual premium of 6682*l.* 6s. 6d. It, therefore, follows that at this time the society has issued 605 policies, amounting to 304,994*l.* 5s. 8d., and that the annual premium on such policies amounted to 9480*l.* 5s. 4d. In order, however, to show the number of policies actually in existence, the amount assured thereby, and the annual income derived therefrom, it is necessary to state that 62 policies, covering assurances to the extent of 43,946*l.* 16s. have either expired or lapsed, that 5 policies amounting to 1598*l.* have become claims, and that the annual premium in respect of such policies amounted to 123*l.* 5s. Deducting, then, the number, the amount, and the premiums of these policies, it will be apparent that 538 policies for assurances, to the amount of 259,449*l.* 9s. 8d., are in existence, and that the annual premium payable in respect of such policies is 8243*l.* 0s. 4d. Your directors are happy in announcing that not more than two deaths have happened during the past year among the assured, and that the claims arising therefrom do not involve a larger sum than 800*l.*

Your directors would remark that the total claims made on the society, since the commencement, have amounted to 1598*l.* only, while the premiums received on the lapsed and expired policies above referred to, amount to 1552*l.* 16s. 9d. The balance sheet to the 31st of December last, duly approved and reported upon by the auditors, has been sent, as required by the statute, to every member of the society. Your directors have further to state that, Messrs. William Jones, John Smale Torr, Charles Wordsworth, and John Michael Morris are the directors who retire from office by lot, but, being eligible, offer themselves for re-election. In the terms of the Deed of Settlement all the auditors go out of office, but are eligible for re-election. Messrs. William Scrope Ayrton, John Jackson Blandy, Montague Gosset, and Robert William Hand offer themselves accordingly, and Richard Nation, Esq., of Orchard-street, Portman-square, and Wm. Roberts Harris, Esq., of Essex-street, Strand, offer themselves also as auditors for the current year.

The Chairman said, he had to announce that the attendancies of the directors from the date of the last meeting comprised 52 board meetings, in addition to all the special boards, making an aggregate number of 417 attendancies, the average attendance at each board being seven directors. They had heard the report just read by the secretary, which he thought was a matter of congratulation to them all, for they had certainly improved their condition since the last meeting. He hoped that every member of the society would do the best he could to procure them more business, by which, of course, they would realise more advantage to themselves. If the report now read should meet with the approbation of the meeting, he would move that it be adopted.—Mr. Harris seconded the motion.

Mr. Elloart was surprised to hear it stated that the society was progressing. So far from there being an improvement in their condition, there was a falling off in their receipts. What was more important was, that whilst there was a falling off in their receipts, there was an increase in the expenditure of the society. This led him to conclude that their affairs were not conducted with that economy which was desirable. There was another society in which he held a few shares, where they did a greater business with less expenses. (Hear, hear.) The whole of the items showed that the expenditure of that office was but 2732*l.*; whilst theirs was 3548*l.*, and their premiums 12,200*l.*, whilst those of this office were but 7700*l.* Thus there was an increase of 816*l.* in the expenditure of this office over the other, and a diminution of 4500*l.* in the premiums. (Hear, hear.) There was another subject to which he would allude, which was that they ought to know the real progress of the society up to the present time, by a statement at the foot of the balance-sheet, which suggestion he understood, at the last meeting, would be considered by the directors.

The Chairman said, they were obliged to audit their accounts to the 31st December, and they could not depart from it; but the directors were, notwithstanding, prepared to show what was done since those accounts were prepared. (Hear, hear.)

The Secretary then read a statement bringing the accounts up to the 30th April last.

Mr. Cox (a director) said, he should like the gentleman who had just spoken to say the description of office he alluded to, as different offices had different plans, according to the risks they had to encounter. This society was established under the Joint-Stock Companies' Act, which made it necessary for them to state all their expenses—not binding on other companies, which might conceal many of their expenses. Unless the society were known, and all their accounts made up, it was impossible to make any comparison. The business of this company only extended over three years, and it was well known that the first two years had always an excess of business over the next three or four, which arose from the directors and their friends exerting all their influence in favour of the society. They had shown a large profit in the first year, which had diminished in the following, and would go on till the sixth or seventh, when the amount would come back again to that of the first year; this arose from the early sources becoming exhausted; but as new policies came in, it would begin to grow again for another limited period. This was the case with all life offices, without exception. (Hear, hear.) From the commencement of this society, they had steadily increased, and, if the hon. gentleman would only reflect on the state of the country in the past year, and how few, who were so inclined, could spare their money for life assurance, he must admit that, under such trying circumstances, the company had really progressed. He must think so, if he only recollected this fact, that, out of the 39 life assurance companies that had met in the past year, only five of them had shown an increase of business—all the rest had exhibited a decrease. (Hear, hear.) Taking these things into consideration, he felt that the directors were quite justified in stating that the report now presented was most satisfactory. As to the expenses of this company, he could assure the meeting, that the directors, as well as himself, were most anxious to conduct the office as economically as possible; and he would boldly affirm that he had never known any office where the annual expenditure was so small as in the Solicitors' and General Life Assurance Society. As to the subject of advertisements alluded to, that had been talked of over and over again, at their board meetings, and the directors had expressed the most contradictory opinions in respect to the policy. Mr. Nelson was there, and could confirm what he had stated to him (Mr. Cox): namely, that one of the most flourishing offices, doing as many as 40 policies a week, had

humanely profited by means of advertisements; that society, as stated by Mr. Nelson, spent 2000*l.* a year in advertisements. (Hear, hear.) They must all know that it was requisite that every assurance office should be kept constantly before the public. Many of their country friends, when applied to for a life assurance company, had never heard of the Solicitors' and General Life Assurance Society, and would, consequently, let the parties follow their own course, whilst this society might realise the advantage. As to the 340*l.* objected to by Mr. Elloart, he had no doubt it would repay the company three or four-fold. (Hear, hear.)

The CHAIRMAN said, that it had just been mentioned that a difference of opinion existed at the board on the subject of advertisements. It was very proper on the part of that gentleman to draw attention to the subject, and for Mr. Elloart to express his opinion. He (the chairman) had only been one year in office, but he could assure the meeting that the subject of advertisements, as well as economy in the management of this society, had always been subjects that occupied the anxious attention of the directors.

The SECRETARY said, it must be borne in mind that this society paid for its medical reports, which was not done by many other companies.

The CHAIRMAN thought they must all agree on the importance of their having honest medical reports, as they would have to run a great risk in taking policies, unless they paid for such medical reports. (Hear, hear.)

Mr. BROCKMAN knew a medical gentleman, a friend of his, who showed him a list of assurance offices that did not pay for their medical reports; when he made this observation —"These pay no medical fees; we put a tick against them." (Laughter.)

The report was then adopted unanimously.

Messrs. Jones, Torr, Wordsworth, and Morris, were re-elected directors.—Messrs. Ayrton, Blandy, Gossett, and Hand, were re-elected auditors; and Mr. Nation was elected an auditor, the other candidate, Mr. Harris, having withdrawn.

Mr. DONNE returned thanks on the part of Mr. Nation, who was absent,

Mr. BLANDY returned thanks on the part of the auditors, and alluded, in very high terms, to the correct and lucid manner in which the accounts were kept by Mr. Stevens, the accountant; and he thought if Mr. Elloart, or any other gentleman, would take the trouble to look into those accounts, he would be of the same opinion as himself.

Mr. ELLOART expressed his cordial approval of the superior manner in which the accounts were presented.—Mr. WORDSWORTH returned thanks on the part of the directors.

The CHAIRMAN said, that it would be necessary to move that a sum of 5*l.* 5*s.* each, in addition to their travelling expenses, be given to the auditors. (Hear, hear.)

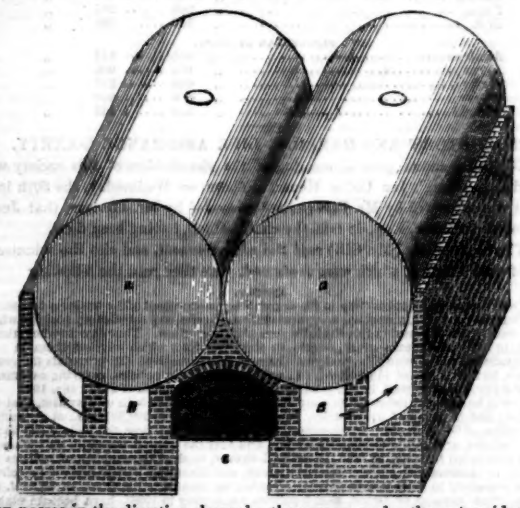
On the motion of Mr. WORDSWORTH, seconded by Mr. ELLOART, this was agreed to unanimously.—On the motion of Mr. BLANDY, seconded by Mr. THOMPSON, a sum of 300*l.* was voted for the services of the directors unanimously.

A vote of thanks was then passed to the directors, to the auditors, and to the chairman of the meeting, which, having been severally replied to, the business terminated.

HUNGERFORD MARKET COMPANY.—The half-yearly general meeting was held on Wednesday last,—MARTIN STUTELY, Esq., in the chair.—The report of the directors stated, among other matters, that the new fish market was completed and occupied, presenting a most attractive appearance, and by the accommodation afforded to the public, calculated to improve the trade of the market. The report was received and adopted. The retiring directors were re-elected; and after passing a vote of thanks to the chairman and directors, the meeting separated, with evident feelings of satisfaction at the manner in which the affairs of the company were conducted.

DESIGN FOR A FURNACE AND BOILER.

A new arrangement of furnaces and boilers for steam-engines has occurred to me, which seems calculated to combine the utmost strength of boiler with great economy of fuel. The prefixed sketch will, I think, require but little explanation:—*a*, *a*, are two cylindrical vessels, placed in close proximity side by side, and communicating with each other by steam and water ways, so as to form one boiler; and in the recess or space underneath, where the two vessels join, I place the furnace, and such part of the recess as may extend beyond the furnace, serves as a flue to carry the flame to the back or further end of the boiler; where the flue or draught is divided in two, and one part of the heated air returns under one vessel, and the other part under the other, along the flues marked B, B, whence it



then passes in the direction shown by the arrows, under the onter sides of the boiler, and on to the chimney. A part of the brickwork is removed in the figure, to show the position of the flues, *c*, in the ash-pit. It will be observed that the furnace and flues traverse the whole length of the boiler three times, and that the boiler is unquestionably well adapted for strength, while it admits of easy access to any portion of the interior part, for the removal of slate or incrustations, by which boilers are so liable to be damaged.—URIAH CLARKE: *Leicester.—Mechanics' Magazine.*

THE "ARCHIMEDEAN," OR WORM STOVE.

This is the title of a stove for warming and ventilating dwellings, halls, churches, green-houses, and other buildings; can be employed for the supply of hot air, or hot water, or steam, for tube warming; and while they can be constructed from the most elegant designs, they are economical, self-feeding or otherwise, and based upon sound scientific principles. An upright stove, for warming buildings, &c., consists of a fire-place, over which is a conical feeder surmounted by a moveable cap. Around this feeder is the air chamber, communicating with the atmosphere at bottom, and having openings in the top for the egress of the heated air. Around this air chamber the flue traverses in the form of a screw, and its evolutions between the internal and external cylinder elongate it to such an extent that 1 ft. in height travels a space of about 12 ft., or in the whole height of the stove a distance of nearly 40 ft., thereby generating and distributing the heat in its progress, preventing the possibility of any escape into the chimney, and, consequently, avoiding the great danger of igniting any surrounding object.

The following are the directions for use:—Light the fire in the usual way, taking care not to overload it; when properly ignited, close the ash drawer and furnace door, take off the top of feeder, and put in the quantity of broken coke, not larger than a hen's egg or walnut, required for its time of action. The coke is supplied to the feeder by means of an iron funnel, which is sent with each stove for that purpose. The opening of the ash drawer, or furnace door, after the feeder is charged, will entirely depend upon the construction of the stove, and whether intended to work as an open fire or not, the accompanying diagrams elucidate the principle for either purpose; but the draft will be more rapid with the door closed, and the ash drawer open, but with trifling alterationsin the manufacture, entirely opposite. When the principle is applied for warm water or steam, it has the form of a flat cylinder outside, with disc cover, inside which the spiral flue is applied, but not rising upwards, as in the above case; it forms a helix traversing the water from circumference to centre; over this a steam-chest is placed, in which are put the ingress and exit pipes. They are calculated to generate steam at a very rapid rate, and appear fully efficient for the purposes for which they are intended.

IMPROVEMENTS IN COCKS AND VALVES.—Messrs. P. Llewellin and J. Hemmans, of Bristol, brass and copper manufacturers, have just patented some improvements in the manufacture of cocks and valves for drawing off liquids. The passage of the cock, or tap, is closed, or opened, by means of a disc, ground smooth, or provided with packing, to fit tightly over the aperture in the barrel. The disc is furnished with a rod, screwed at top, which takes into a female screw tapped in the stem of the handle, and with feathers fitting into the bottom of the barrel. The top of the rotary stem is provided with a flange, or collar, ground smooth or fitted with packing, and a cap is screwed over it on to the body of the tap, in order to prevent the escape of water or steam. Various modifications of this construction are shown and described, but which do not appear to possess any distinctive or important feature.—*Claim:* The construction of the various parts described, particularly of the accurately ground steam and water tight shoulder of the rotating stem, with or without packing, whereby the disc-valve is raised or depressed, guided (*sic* in orig.), and the cock rendered steam or water tight.

THE EXPLOSION AT TRESCOLL MINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—If your correspondent, who signs himself "A Mine Proprietor," will come forward in *propriâ personâ*, and favour me, through the medium of your paper, with his real name, I shall be happy to exchange a few remarks with him, through the same channel, on the late unhappy explosion at this mine. I cannot forbear observing, by the way, that there is a feeling exhibited throughout his letter, by which he would appear to be actuated by some principle which bears but a questionable relationship to either Christian charity or common humanity. He will not, doubtless, hesitate to maintain the position he has assumed, more especially when he is assured that his antagonist is nothing more than an ordinary "Luxulian man." JOSEPH POLSUE.

Trescoll Mine, May 29.

WHEAL TRESCOLL BOILER EXPLOSION.

SIR,—In the letter of "A Mine Proprietor," inserted in your last week's paper, an allusion is made to a rumour being current, that the accident was anticipated. I beg to inform him, or any one else whom it may concern, that there is no doubt such rumours emanated from my office, for it has been a subject of common conversation here for this last six months; it was also well known to the purser and managing committee of the company; but if "A Mine Proprietor" wishes to know the full particulars of the case, by calling at my office, he may obtain it.—C. S. RICHARDSON, C.E.: 5, *Whitefriars-street.*

TRANSFER OF SHARES IN MINES—ARE STAMPS REQUISITE?

SIR,—I observe a letter in your Journal of last week, signed "W. H. G." animadverting on your remarks in a previous number, with reference to the transfer of shares in mines; and, as your correspondent is doubtless a professional man, he may be somewhat desirous of considering the question, to use his own phraseology, "a legal one." This may be very well for those whose legal acumen and practice bring in the legal fees, and their royalty or dues, but for the adventurer, I, for one, beg to differ with your correspondent. He tells us that the test he "would propose (I presume counsel's opinion) for solving it" (that of the necessity of stamping transfers) "is, whether in the event of having to give in evidence in the superior courts a transfer of this nature, it would be receivable, if objected to, without being stamped *as an agreement*, under which in their usual form, such an instrument would be ranked?" Such is the query put forth by your correspondent; and I think a word or two of common sense will at once prove to him that he goes far beyond his depth (I mean of knowledge) in advancing an opinion, and that without he looks for a fee, which I think he is not very likely to obtain, without he can put forward more legal knowledge than he has displayed in the present instance, it would be well were he to avoid again committing himself in print: at the same time that I may observe he shows himself to be no friend to the miner in pointing out the assumed obstacles, in the way of charges, attendant on the transfer of shares. I should be glad to know whether "W. H. G." ever held a share in a mine in his life—if he did, and if he is at this moment an adventurer, then he stultifies himself; if he is not, then let him "read, mark, learn, and inwardly digest" the Cost-book System, which you have endeavoured, although perhaps not perfectly, to describe. If "W. H. G." cannot scrape up more than he will ever obtain by proceedings on unstamped transfers, I fear his will be a sad lot. However, he has perhaps *resorted* to the present as a *dernier resort.*

Temple, May 30. W. X. Y.

MINING IN THE CARADON DISTRICT.

SIR,—In looking over your valuable Journal of the 19th inst., my attention was drawn to some remarks relative to the mines in this district; and it appears to me the writer is like a mariner who goes to sea, intending to arrive at some distant port, but is destitute of either rudder or compass to guide him, and the result must be obvious—he goes where he knows not; and had he known anything of what he was writing about, he could not, if he intended to convey the truth, and inform the public, have made such unjustifiable remarks; or, indeed, if he knows the district, it is evident he has some very improper motives in view, as nothing can be farther from the truth. The writer commences with Caradon Copper Mine, and says the number of lodes in it are three; but I beg to inform him, that not less than seven lodes are opened on, which will average more than 4 ft. wide; two have been driven on at the 30 fin. level for many fathoms, and are composed of soft spar, prian, peach, and mundic, with rich black, grey, and yellow ore, and a continual improvement in sinking the shaft, which is 30 fms. under the adit level, and not, as stated, 30 fms. only; and if these prospects are not encouraging, I, for one, shall consider it a valuable piece of information to be informed what is. Secondly, he speaks of Caradon United; it has been always understood the lodes in this district are east and west lodes, and some of the lodes in South and West Caradon Mines run through Caradon United sett, and yet he says it is half a mile to the south; but for his information I would say it is about three-quarters of a mile a little to the south of west. He also states the lodes have no regular and well-defined walls. Mr. Hitchins, of Devon Great Consols, inspected this mine some few weeks since, and reports as follows:—"The lodes have a very approved appearance, being fully 10 ft. wide, with well defined walls, and underlay about 1 foot in the fm." Who shall we believe, a man of such high integrity as Mr. Hitchins, or one who pretends to know something, but, in reality, knows little or nothing? Rather let us believe the former, and let the latter sink where his name is—in the dark. Thirdly, he arrives at South Caradon Mine; this sett, he tells us, embraces all the lodes in West Caradon, Wheal Agar, and Caradon Wheal Hooper —so far is true. He says, "for some time past the end of the main lode has been poor;" I should be much obliged if he would inform me where the end of the main lode may be found. He also states, "the agents are now compelled to do that which ought long since to have been done—increase their tutwork, and drive a cross-cut north to intersect the north lodes;" but if he had asked for information, he would have been informed that two cross cuts have been driven north some five or six years since, before any was driven in our neighbouring mine (West Caradon), and some of the lodes driven on for many fathoms. The tutwork pares for the last five years have not increased more than two, to account for which we have two new shafts sinking from surface; and every one who has inspected this mine, both for lords and adventurers, have declared they never saw any mine where tutwork was carried out and proved to a greater extent. This mine has paid the shareholders 62,000*l.*, and will at the next meeting pay a dividend of 5*l.* per share; but it must not be called *celebrated*—that title must be given to mines which have not paid anything like that amount. Fourthly, he arrives at "the celebrated," or West Caradon Mine, and its recent improved management; this is very pleasing to hear, when men are growing much wiser, and better qualified to manage that which is intrusted to their care. The managers are nearly all the same—excepting the removal of one man, and it is well known he was of great experience in mining matters; and the cross-cuts were driven to a great extent, and most of the lodes discovered, before he left, and it may truly be said, "one man soweth, and another reapeth." All practical men must know that if the ends are stopped, the mines must "knock." I think it but fair here to remark, with all due respect to the present managers, that a general improvement has taken place in the lodes, and I wish them still greater improvements, with a continuance; but in closing these remarks, I cannot but say that it seems very strange to me the writer is ashamed to append his name to what he has written; has he concealed it because his deeds are evil, or is he afraid to come to the light, fearing he will be reproved? I should not have troubled myself to reply to those remarks, had I not seen they were very unjust, and calculated to mislead the public.—WILLIAM RULE: *South Caradon Mine, May 23.*

[From the *Plymouth Journal.*]

WHEAL FRANCO.—The agent reports that the lode in the 62 fm. level, west of the engine-shaft, has been intersected by a slide, which is underlaying south about 20 feet in a fathom, with a dip of about 1 in 10 westward. Before the lode was intersected by this slide, it was large, kindly, and producing some good stones of ore—it has still the same kindly appearance in the part that is being traced forth under the slide. The lode in the 62 fm. level east is still poor, but it has much improved in its character within the last 6 feet, and he thinks there is a chance of further improvement in that end soon. The 47 fm. level has been driven south into the lode—it has produced a little ore, but not of much value. The 32 fm. level east has been driven about 3 fms. through a kindly and orey lode, and it is better at present than it has at any time before been. On the whole, the ends are a little improved since the last meeting. A dividend of 1*l.* per share was declared, to be paid on the 20th June, leaving, after its payment, a balance of 380*l.* 15*s.* 1*d.* in favour of adventurers, in hands of the purser.

PLYMOUTH WHEAL YEOLAND.—The new south lode underlies regularly about 3 ft. in a fathom, and is 4 ft. wide. A shaft has been sunk about 14 fms. on the course of the lode, which is composed of layers of killas and tin capel—some of the latter much richer than others, which causes the value of the lode in the shaft greatly to vary. The workings on the middle lode are suspended, and the shaft full of water: this shaft is so situated as to take the south lode at from 70 to 80 fms. deep. The north lode is, in the opinion of the agents, who have inspected the mine as far as seen, by far the most promising in the sett. This lode has been again cut in the costean pits, about 60 fms. to the west of the shaft, in which the tributers are working, and has in it at this place good stones of tin; to the east this lode has been traced several hundred fathoms, and a great part of this lode above the backs taken away.

PLYMOUTH WHEAL YEOLAND EAST.—The engine-shaft is progressing rapidly, and preparations will shortly be made for sinking under the adit.

BIRCH TOR.—The lode in the end of the shallow adit is improving, and is now worth about 6*l.* per fm.—there is no other alteration in the mine.

WHEAL ANDERTON.—This mine has been sunk to the 90 fm. level. The 70 fm. level has been extended westward about 55 fms., where there is a good lode. The 80 fm level has been extended from 18 to 20 fms. east, and the lode here is good; the 80 west has been extended from 20 to 30 fms., and is approaching the shoot of tin met with in the 70 fm. level. The 90 fm. level has been driven 12 to 15 fms. east and west; both ends are improving, and the mine is looking well. Our ore sampling is regularly from 12 to 14 tons monthly, and more would be returned if she had more stamps—she is making some profit to the adventurers.

WHEAL CALSTOCK.—A very fine course of ore has been cut in this mine, which has caused shares to be sought after at considerably increased prices.

CORNISH STEAM-ENGINES.

[Abstract from Browne's *Cornish Engine Reporter*, from April 30 to May 20, 1849.]

PUMPING-ENGINES.

Number reported	88
Average load per square inch on the piston, in lbs.	12·8
Average number of strokes per minute	8·3
Gallons of water drawn per minute	5309
Average duty of 19 engines—being million lbs. lifted 1 foot high, by the consumption of 1 cwt. of coals	63·4
Actual horse-power employed per minute	960·5
Hourly consumption of coals per horse-power per hour, in lbs.	4·1

ROTARY-ENGINES—WHIMS.

Number reported	19
Number of kibbles drawn	75,930
Average depth of drawing, in fathoms	128·1
Average number of horse-whim kibbles drawn the average depth, by consuming 1 cwt. of coals	52·3
Average duty of 14 engines, as above	15·7

STAMPS.

Number reported	7
Average number of strokes per minute	12·9
Average duty of 5 engines, as above	35·0
Actual horse-power employed per minute	111·1

PUMPING-ENGINES DOING HIGHEST DUTY.

Fowey Consols	80-inch single	*Millions*	96·2
Par Consols	72 and 36-inch Sima's combined		92·4
Par Consols	80-inch single		90·1
Great Polgooth	80-inch single		88·4
Callington	50-inch single		78·1
West Fowey Consols	60-inch single		72·7

WHIM-ENGINES.

Fowey Consols	22-inch double	*Millions*	30·3
Par Consols	28 & 13-inch Sima's combined		26·0
Fowey Consols	22-inch double		25·6
Great Polgooth	22-inch double		20·0

STAMPING-ENGINES.

Tincroft	36-inch double	*Millions*	49·6
Tamar	30-inch single		41·7
South Caradon	26-inch single		38·8

MORE GOLD DISCOVERIES—CALIFORNIA ECLIPSED.

We find the following curious account of a vast deposit of gold, which is said to exist in the interior of Peru, in *El Commercio*, of Lima, of 31st of March last: it is inserted in the shape of a letter, from one of the passengers from Valparaiso to Callao, on board the English steamer, on her last trip (March):

"I take the opportunity of communicating to you the substance of a conversation which passed between Gen. O'Brien and several of his countrymen, on board the last English packet, on her voyage from Valparaiso to Callao. It seems that Gen. O'Brien sojourned during several months of the year 1829, residing at the principal mines of Contogo Soco, where he learnt from an old miner, Don Marcos Lisboa, that in the vicinity of Paurcartambo there were some hills that were perfect masses of gold, and within 20 leagues of the River Ninto Abajo, there were immense plains and washings of gold, without end—that in the year 1754, the Portuguese arrived there with over a hundred labourers, but that in a short time upwards of one thousand Indians assembled, and massacred every one of them in one night. Not one soul escaped. Gen. O'Brien did not fail to pay attention to this information, and resolved to enter this territory by the way of the valley of Paurcartambo, in preference to going through the Brazils, the distance by the latter route being so great.

"In the years 1834-5, Gen. O'Brien made two journeys to the valleys, and in 1835 prepared an expedition, well provided with all those kinds of goods which are best calculated to please savage indians.

"He started from Cuzco, accompanied by one servant, a muleteer, and a miner; he performed the journey and returned to Cuzco in five months, and only brought back a handkerchief full of sand, which was washed at the mint of Cuzco. It proved very rich.

"The result of his journey was published at that time in the Cuzco papers, and he had private interviews with Gen. Gamarra, at which he offered to pay off the national debt of Peru within three years. The country was at this juncture plunged into a civil war, and on this account the enterprize was abandoned, and Gen. O'Brien returned to Europe.

"As a friend to my country, it has appeared to me but right that I should communicate this information to you for publication, without wishing at all to offend the *amor propria* of General O'Brien, or prejudice his interests in the slightest degree.

"P.S.—Gen. O'Brien stated he could find enough gold there, in one week, *to load one hundred men-of-war!!!*"

CALIFORNIA.—We learn from New York, that the *Tyrone* had arrived at New Orleans from Vera Cruz, bringing dates from San Francisco to the 7th March. The news of the desertion of the steamer *California* is confirmed; the crew had left her, and were "digging" at the mines. The crew of the *Oregon* had also left that ship. It has been ascertained that the gold region extends to Lower California. Building lots in San Francisco were selling at enormous prices, some of them as high as 35,000 fr. The steamer *Crescent City* had returned from Chagres, bringing a few passengers and a little specie from Havannah, but no gold dust. No steamer had yet returned to Panama from San Francisco, though quite a fleet of sailing-vessels had arrived, and were taking up the emigrants very rapidly, at $200 each the passage. The rainy season had not yet set in, but was daily looked for. The survey by the American engineers was nearly completed, and they were about returning home to complete their mapping and calculations, and receive offers for construction. There was at last some system adopted in the mode of transporting freight and passengers across the isthmus—Messrs. Lea and Leach being actively and successfully engaged in the business. Provisions were very cheap at Chagres, and the season had been healthy. The steamer *Panama* was expected daily from below, and the *Oregon* from above, as her captain had determined not to let his crew desert, as did that of the *California*. The Government of Nicaragua (if there be any such thing) have granted the right of way across its isthmus to a Mr. Brown, of New York, for a small sum ($10,000). He is to make a ship canal and railway within 10 years; it is doubtful, however, whether its Congress will sanction the agreement, as a better offer has been already made by another American now in that country, which offer is to be supported by direct negotiations from our own Government, and a decided recognition of the independence of Nicaragua. This proposition, backed by funds from heavy New York capitalists, will, of course, be successful.

SPECIE FROM CALIFORNIA.—The accounts from California come down to the 7th March, by way of Mazatlan, and we have seen letters from San Francisco which state that a very profitable business was being done in several articles of import. Her Majesty's ship, *Calypso*, which left Mazatlan in March, for England, has a piece of gold on board weighing ½ lb., consigned to a Liverpool house; and, on the ship's arrival, those who are sceptical of anything but small grains being discovered in California will have the correctness of their opinions tested, as there will be no difficulty in ascertaining whether it be in its native state or not. We have also seen bills of lading by this mail for about $80,000 of gold; and, though on account of a Liverpool house, it is distributed to various and distant places—part to China, part to New South Wales, part to Valparaiso, and remainder to England. We mention the circumstance in support of remarks which previously appeared in this article, that England could not expect to be the first recipient of the treasure, as she had not sent the means of purchasing it, and did not offer the same inducements as the nearer markets for investing in goods, produce, &c., for consumption in California.—*L'pool Albion.*

ACCIDENTS.

Kingswinford.—J. Short was dreadfully injured by a fall of coal at Messrs. Jones and Oakes's colliery.

Stratford-on-Avon.—A time-keeper at the Mickleton Tunnel, named Thomas Rumble, narrowly escaped destruction under the following circumstances:—It appears that he was about to descend into one of the shafts connected with the undertaking, but by some mishap missed his footing, and was precipitated to the bottom. He fell a height of between 80 and 90 feet, and, as might be expected, was completely stunned; but shortly after he was discovered, and conveyed to his lodgings at Campden, when he rallied, and, under the care of Mr. Hiron, surgeon, is doing well. It is extraordinary that not a single bone was broken or displaced, and beyond being somewhat bruised, he escaped almost unhurt.—*Birmingham Journal.*

Boiler Explosion.—A boiler explosion took place at one of the collieries of Messrs. Bagnall, situated near Caponfield Furnaces. The boiler was a large round one, weighing about 5 tons; and the violent nature of the explosion may be surmised, when we state that it was thrown a height of more than 30 feet into the air, and fell a distance of nearly 60 yards from the engine-house. The engineer was slightly scalded, but with this exception no one sustained injury. It is rumoured that this explosion took place in consequence of the engineer having allowed the boiler to get red hot, and afterwards suddenly let some cold water into it.—*Ibid.*

Bilston.—An explosion of fire-damp took place in a pit belonging to Mr. Hickman, by which three of the workmen, two men and a boy, were very seriously injured, although fortunately not to such an extent as to render their recovery improbable. Meacham, the "butty" of the pit, had tried the safety-lamp a short time before the explosion took place, and no sulphur or fire-damp was then observed.

Rowley Regis.—Wm. Stringer was dreadfully injured by a fall of coal at Messrs. Badgers' Bellfarm Colliery.—Thos. Smart was dreadfully burnt by an explosion of sulphur in a pit belonging to Messrs. Hopkins, at Dudley Port.—Thos. Oakley was seriously injured by a fall of coals at the New British Iron Company's New Lion Colliery.

While some bricklayers were employed at Mr. Sparrow's iron-works, in Horsley-fields, making additions to a forge, and J. Clarke was winding up bricks and mortar to the men at work on the scaffold, by an accident one of the men caused a brick to fall, which came in contact with the small of Clarke's back, whereby he received severe bruises on his spine.

Merthyr.—A collier, named John Rees, was killed by a fall of rubbish from the top of the level at Penydarren Works.

A number of boilermakers at Messrs. Petrie's brass and iron foundry, Rochdale, were employed in driving rivets into a large cistern bottom, weighing nearly 6 cwts. It was placed on two large logs of timber, and the rain which had fallen having caused it to slip on one side, it rolled upon a man named John Brade, 32 years of age, who was so severely injured, that he died in three hours afterwards.

Mining Correspondence.

[The Commissioners of Inland Revenue having notified to us their resolve to charge with advertisement duty all reports having the agents' names affixed, we appealed to them in a memorial, setting forth that we, or the respective companies, derived no advantage therefrom—the only object sought, or obtained, being that of affording to the mine adventurer and public the greatest guarantee we could for the truthful and *bonâ fide* nature of the statements periodically set forth, by authenticating them, and thus fixing a responsibility on the writer. The Commissioners have replied, that "the reports, with names attached, are advertisements, and that duty will be charged thereon." We have no alternative but submitting to their dictum. How far the Commissioners are correct in the view they take, our readers can judge as well as ourselves;—we can but hope that, on reflection, they will see the error into which they have fallen, and rescind the orders they have issued. All reports inserted under this head, however, may, as heretofore, be considered as furnished by the regular agents of the company; and we shall carefully guard against the publication of statements which cannot be relied on as correct.]

BRITISH MINES.

AYLESBOROUGH.—In driving west from Henry's shaft we are intersecting several branches; we last week cut a branch of tin running parallel with the lode; the lode is about 18 in. wide, composed of prian, capel, and tin—good work. We hope, by another week, to see more of it; at present there is every appearance of shortly getting into a rich bunch of tin.

BARRISTOWN.—The lode in the adit end east has greatly improved in appearance since my last, it is about 1 ft. wide, with good stones of lead mixed through it; the underlay is still very great. The stopes behind this end are looking rather better, and the slide which crossed the lode at right angles in the adit level is taking a more easterly direction in the back over, thereby lengthening the course of ore making on the slide. The lode in the stopes in the bottom of the adit level is without any change. The back of the 16 fm. level is producing about 8 cwts. of lead per fm. In the winze sinking in the bottom of the 16 fm. level, the lode is producing stones of ore, principally composed of carbonate of iron. We are stoping the bottom of the 16 fm. level, east of the winze, and the lode looks much better there, producing about 6 cwts. of lead per fm.

BEDFORD UNITED.—The engine-shaft and the 103 fm. level are the same as last reported. The lode in the 90 fathom level east is 2½ ft. wide, and yielding about 3 tons of ore per fm.; in Burley's winze, in this level, the lode is at present worth about 70*l.* per fm.; and in Crews's winze, in the same level, the lode is 18 in. wide, good work. There has been no lode taken down in the 70 fm. level east since last report. We weighed at Morwelham, on Friday last, March ores, 115 tons 7 cwts. 3 qrs., and sampled April ores, computed 114 tons (21 cwts.), superior quality ore.

BRYN-AR-IAN.—I see no alteration in this mine worth mentioning since my last week's report. The lode in the engine-shaft still yields 15 cwts. of ore per fm. The stopes in the back of the deep adit level, east from the shaft, is worth 1½ ton of ore per fm. The stopes, back and bottom of the shallow adit level, are worth 1½ ton of ore per fm. The stope, back of the adit level, west from the shaft, at present is producing 1 ton of ore per fm. We have commenced dressing to prepare for the crusher, which is now arrived at the mine, after six weeks' delay, occasioned by contrary winds, but I hope now we shall soon get in course of working.

CAMBORNE CONSOLS.—Since writing my report, inserted in last week's Journal, I have ascertained that they have made another very important discovery in these mines. On Saturday last they cut into a very fine and promising lode in the 40 fm. level, west upon Martin's lode; it is a large lode, upwards of 2 ft. wide, with good stones of ore, arsenical pyrites, sulphuret of zinc, &c., leaving no doubt of their getting by this another good course of ore very quickly. From the most recent information obtained, I find that this discovery is rapidly improving, and of vast importance to the proprietors, as it will drain the course of ore in Martin's winze, 70 fms. west of this end, to the depth of 80 fms. from surface. They are now preparing for the next Roskear ticketing from 25 to 30 tons of ore, estimated worth about 9*l.* per ton, and I have no doubt that they will be able to bring from the present discoveries about 30 tons of ore per month to grass, with a certainty of soon increasing those quantities, and a probability of being doubled.

CWM ERFIN.—Our 20 fathom level, east of the engine-shaft, is producing about 8*l.* or 10*l.* worth of lead per fm.; the stope behind the end about 1 ton per fm.; the stope east of the engine-shaft, in the 20 fm. level, is worth 10*l.* per fm.; the stope west of the engine-shaft, in this level, is producing about 8 cwts. of ore per fm. We have commenced sinking a winze about 7 fms. east of our eastern end (the 20) under the 10 fm. level; we are getting it carried 12 ft. long, and for that length it is worth 10*l.* per fm. Our dressing department is getting on very well, and our machinery all in good order.

DEVON AND COURTENAY CONSOLS.—The lode in the end driving west, in the 40 fm. level, is 3 ft. wide, composed principally of white iron and mundic, with some stones of ore interpersed in the lode; the ground on each side of the lode is a beautiful white killas, and in every respect congenial for copper ore. In our 50 fm. level, driving on our south lode, the lode has not been taken down since the last report; in the stopes, in the back of this level, the lode is producing one ton of ore per fm.

EAST CROWNDALE.—My opinion with regard to cutting the lode in the 28 fm. level is wrong, the lode having taken between the 17 and 28 fm. levels a much greater underlay than from the 17 to the surface. I expect every day to cut it, there being a large stream of water issuing out of the present end. The 17 fm. level continues hard and poor, being principally in elvan. The adit level at present nearly resembles the 17 fm. level from Diamond's shaft, being to within 4 fms. of holing. Tippett's stopes do not look quite so good, the lode being at present mixed with killas; it produces about 25*l.* per fm. Paull's stope is composed of killas, spar, peach, mundic, and tin, worth about 30*l.* per fm. We shall sample, on Tuesday, about 10 tons of tin of good quality.

EAST TAMAR CONSOLS.—I beg to hand you the following statement of bargains and pitches that were set on Friday last:—To sink the engine-shaft, 2 fathoms stent, by 8 men, at 17*l.* per fm.; the ground is much the same as for some time past, and the lode in the bottom rather improved for lead; to drive north in the 70 fm. level, 2 fms. stent, by four men, at 3*l.* 10s. per fm. We have resumed the driving of this end, the rise to the 60 fm. level being holed; to drive south in the 70 fm. level, 2 fms. stent, by four men, at 4*l.* per fm.; the ground in this end is easier for driving, and the lode is rather larger, and more productive. To drive north in the 60 fm. level, 3 fms. stent, by four men, at 4*l.* per fm.; the lode in the east continues to be worth 9 cwts. of lead per fm.; to stope in the back of the 60 for the month, by four men, at 35s. per fm.; the lode here is worth 11 cwts. of lead per fm.; to drive south in the 60 fm. level, 2 fms. stent, by four men, at 6*l.* per fm.; the lode in this end is poor, and it appears we are approaching the hard bar of ground we had in the level above. To drive north from Charlotte's shaft, in the 11 fm. level, 2 fms. stent, by four men, at 4*l.* per fm.; the lode in this end is not so productive as it has lately been, but is likely to improve in the course of the month, the ground about it being favourable and congenial. The following pitches were also set:—In the 70 fm. level north, by four men, at 10s.; ditto south, by four men, at 12s. In the 60 fm. level north, by four men, at 11s.; ditto south, by four men, at 8s.; ditto, by two men, at 12s. In the 46 fm. level north, by four men, at 13s.; ditto, by four men, at 13s. In the 25 fm. level north, by four men, at 11s.; ditto, by two men, at 12s. In the 11 fm. level north, by four men, at 14s.; ditto, by two men, at 12s.; ditto south, by four men, at 11s. 6d. The 36 fm. level, at Church-lane shaft, is under water,

HAWKMOOR.—This mine still looks well; they have driven 16 fathoms through a fine solid course of firm yellow copper ore, and the lode now in the end is 2½ feet wide—solid; all fit to be put to pile. They have cut down the shaft, and are just in order to sink for another level, and a good course of ore to commence sinking the shaft on, which will pay for sinking. I think we may anticipate a fine course of ore in the next level, as, in the last 5 fms. sinking, the lode is much improved. We have sampled and sold 3 parcels of good ore, and will soon sample again, and sell by private contract.

HEIGNSTON DOWN CONSOLS.—Bailey's engine-shaft is sunk 10 feet below the 35 fm. level. The lode in the 35 fm. level east, of the said shaft, is large, but at present poor, although of a kindly description. Hitchins's shaft progresses satisfactorily, the lode in which is 18 inches wide, of a promising character, producing a little copper ore in places.

HOLMBUSH.—The lode in the 132 fm. level, west of the diagonal shaft, is from 6 to 12 in. wide, composed of spar, mundic, and stones of copper ore. The ground in the 120 fathom level south, east of Hitchins's shaft, is just the same as last reported. The lode in the 120 fm. level south is 4 feet wide, composed of quartz, prian, and lead—saving work. The lode in the 110 fm. level south, with the pitch in the back of the level, will produce 6 cwts. of lead per fm. There has been no lode taken down in the 100 fm. level, east of the great cross-course, on the flap-jack lode, since last reported; we are driving by the side of it, in order to save it clean to itself, the wall of which looks well. Our boiler is thoroughly repaired, and we hope to get it into its place, and attached to the other, by Friday next. We sampled our parcel of copper ores on Friday last at Calstock Quay, 84 tons, and weighed off our parcel of silver-lead ores, 30 tons 9 cwts. 1 qr.

KIRKCUDBRIGHTSHIRE.—The lode in the 62 fm. level east is 6 ft. wide, very kindly, with good stones of lead in small branches, worth 5 cwts. to the fm.; the same level west is 6 ft. wide, worth 6 cwts. to the fm. The lode in the 50 end east is much improved, being 2 ft. wide, and worth 4 cwts. to the fm.; the lode in this end west has also improved, worth 7 cwts. to the fm. The 40 end west is poor; the cross-cut in the 40 east is still short of the lode. The vessel has arrived for another cargo of ore.

LEWIS.—We have commenced to sink the engine-shaft below the 70 fm. level—ground favourable; the lode in the 70 east is 2½ ft. wide, unproductive at present; the 70, east of the engine-shaft, on south branch, is worth 5*l.* per fm.; the 70, east of ladder road winze, on south branch, is worth 9*l.* per fathom. The 60 east from sump-shaft, on south branch, is worth 12*l.* per fm.; the winze sinking below the 60, on south branch, is worth 25*l.* per fm.; the lode in the 60 east, on Cock's branch, is 1 ft. wide, producing some rich stones of tin; the winze sinking below the 60, on Cock's branch, is worth 13*l.* per fm. The 50, east of engine-shaft, on Cock's branch, is worth 7*l.* per fm.; the lode in the 50, west of copper ore shaft, on Cock's branch, is 1 ft. wide, worth 9*l.* per fm.; the lode in the 50, east of copper ore shaft, on Cock's branch, is worth 6*l.* per fm. Since my last, in driving the 40 south from copper ore shaft, we have intersected Cock's branch, where it is 1 ft. wide, opening good tribute ground. The 30 west, on south branch, is worth 6*l.* per fm. The south lode in the 10 east is worth 6*l.* 10s. per fm. The tribute ground throughout the mine is looking well.

MENDIP HILLS.—In Charterhouse slag-ground we continue to extend our cutting towards the eastern part of the valley—in doing which we find the beds of slag-stuff precisely the same, both as regards quality and quantity, as it has been for some considerable time past, varying from 16 to 17 ft. thick in the centre of the valley, and gradually diminishing in thickness on either side. In Ubley and Blackmoor, we are getting on very satisfactorily with the making of both the new dressing-floors; in the former we have three washing strakes fixed in their places, and the same number of slime boxes, as also several jigging machines, &c.; in the latter, we have four washing strakes and slime boxes fixed, with the launders for taking the water to the same. The masons are engaged in converting the old workshops into tenements, &c.

SOUTH TAMAR CONSOLS.—The shaft is now cleared to the bottom, or 101 fm. level, and the men are now employed in cutting ground to enlarge it, dividing it, &c., which they will complete in the course of a day or two, when we shall commence clearing the bottom level. The 90 fm. level is cleared south home to the end, which is 59 fms. 4 ft. 6 in.; the lode is about 3 ft. wide, composed of fluor-spar principally, and worth 8 cwts. of lead per fm.—it is set to drive by four men, at 50s. per fm.; the same level is also cleared north for 39 fms. The end is still small, and there is but little of the lode left standing, either in the back or bottom of the level. The lode in the 80 fm. level is about 2½ ft. wide, composed of fluor and horn-spar, and worth 7 cwts. of lead per fm.—it is set to drive at 50s. per fm. by four men. The end in the 70 fm. level south is suspended, and the men put to sink a winze to the back of the 80 fm. level for ventilation. The 40 fm. level is cleared for 50 fms. 4 ft. 6 in. south of the shaft; but we have not as yet reached the end. The 30 fm. level is cleared south 52 fms. 5 ft. 6 in., and home to the end; the lode is about 18 in. wide, composed of capel, with good branches of lead, that will make high produce for silver—the end is set to drive, by four men, at 70s. per fm. There are 20 men employed on tribute in the backs of the 80 and 90 fm. levels, at an average tribute of 10s. in 1*l.*

SOUTH WHEAL JOSIAH.—Since last report we have a great improvement in the adit end driving on the Wheal Jack Thomas lode. The lode is now from 4 to 5 ft. wide, with a branch of white flookan on each wall; the leader part of the lode, which is about 18 in. wide, is composed of white prian, mundic, black and yellow copper ore. I broke some fine samples of black ore from it to-day, and promising further improvement. I have every reason to believe we have a large open lode before us, as there is now considerably more water flowing from the lode than there was a week since.

SOUTH WHEAL TRELAWNY.—The ground in the engine-shaft is still favourable, the men having sunk 15 ft. within the last month; it is now 6 fms. below the 30 fm. level, at which point the spar branch, with some other strings and branches, have formed a junction, making a lode 2½ ft. wide, dipping east 2 ft. in a fm., and is composed of soft spar, mundic, prian, flookan, and spots of lead, which we purpose intersecting in the 50 fm. level, by a cross-cut east from the shaft, in addition to a cross-cut west. The quantity of water we have is just as usual, and the engine works well.

TRELEIGH CONSOLS.—Garden's shaft, below the 118 fm. level, sinking in the country south of the lode, and is below the 113 fm. level 5 fms. 4 ft. The 113 fm. level, west of ditto, is suspended. In the 90 fm. level, west of ditto, the lode is 18 in. wide, worth 4*l.* per fm., and is looking kindly. The 80 fm. level, west of ditto, is suspended. The 60 fm. level, west of ditto, is suspended for the present, the men being still employed in holeing a piece of ground from the 70 to the 80. Parent's engine-shaft, below the 20 fm. level, sinking in the country, and is below the 20 fm. level 8 fathoms. The 20 fm. level, east of ditto, is suspended; in the 20 fm. level, west of ditto, the lode is 1 ft. wide, with stones of ore; the 20 cross-cut south is driving in the country. Parent's whim-shaft, below the adit, lode 3 ft. wide, with stones of ore, and when down will ventilate the 20 west of engine-shaft. In the adit east, on the middle lode, the men are now employed in sinking the winze; in the winze, below ditto, and the rise above the said level, lode 20 in. wide, worth 6*l.* per fathom, and is looking very kindly.

WEST WHEAL JEWEL.—The rise in the back of the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, lode worth 6*l.* per fm. The winze in the bottom of the 57 fm. level, west of Williams's cross-course, on the same lode, lode not taken down in the past week; when last taken down worth 10*l.* per fm. In the 47 fm. level, west of Williams's cross-course, on Wheal Jewel lode, lode not taken down in the past week; when last taken down worth 4*l.* per fm. In the deep adit, west of Williams's cross-course, on the same lode, the lode is producing stones of good ore. The stopes in the back of the 12 fm. level, west of Pryor's winze, on Tolcarne tin lode, lode worth 16*l.* per fm.; the stopes in the back of this level, east of Pryor's winze, worth 12*l.* per fm.; the stopes in the bottom of the 12 fm. level, east of Tregoning's shaft, worth 18*l.* per fm. The stopes in the bottom of this level, east of Tregoning's winze, worth 16 per fm.—these stopes are working on tribute. We have communicated Tregoning's shaft to the adit 30 fm. level in the past week.

WHEAL TRELAWNY.—Phillips's shaft is now nearly completed to the 82 fm. level, and we expect to commence the cross-cut to the lode in the course of a few days. The lode in the 72, north of this shaft, is 3 ft. wide, and worth 10*l.* per fm.; in the same level south the lode is 1½ ft. wide, and worth 8*l.* per fm. The rise is now holed to the winze sunk under the 62, where stopes are now being worked worth 13*l.* per fm. The lode in the 62 fm. level north is 4½ feet wide, and worth 26*l.* per fm.; all the stopes in the back of this level are producing a fair quantity of ore. Trelawny's shaft is sunk 19½ fms. under the 52 fathom level. The ground continues favourable for sinking. The lode in the 52, north of this shaft is 3 feet wide, and worth 9*l.* per fathom; all the stopes in the back of this level are producing a fair quantity of ore. The stopes in the back of the 42, north of this shaft, are yielding a fair quantity of ore. In the north mine, the lode in the 55, north of Trehane, is as was last reported. The lode in the 45, north of ditto, is 2 ft. wide, worth 9*l.* per fm. The lode in the 40, south of Smith's shaft, is 4½ ft. wide, and worth 6*l.* per fm. At this level north, the lode is 2½ ft. wide, and worth 4*l.* per fathom. The lode in the 30, north of this shaft, continues as was last reported; the winze under this level south is completed to the 40, from which we are driving towards Smith's shaft.

WHEAL VINCENT.—The men, in sinking and stoping on the south lode, are breaking good work for tin; the tributers are also breaking a good pile of tin, and are getting good wages. We have, through great difficulty, cut the lode in the streamers' deep cutting; it is about 2 ft. wide, of a very promising character, producing some good stones of tin; the country about the lode to the present depth, which is about 6 fms., is a complete soft yellow clay; we shall, if possible, drive a few feet, so as to see its underlay, &c., then suspend it, as our engine-shaft is going down in a more settled country, so as to cut it at a greater depth. The ground in the engine-shaft still continues favourable for sinking, and if it continues as at present, we shall get it 10 fms. deep in a fortnight. Our wheel works well. I am happy to state that we have a sufficient supply of water; in fact, we do not require half of the stream, even in this dry season. In sinking on the north lode the men are breaking good stamps work.

COMPANY OF COPPER MINERS IN ENGLAND.

A meeting of debenture holders of this company was held at the London Tavern, on Thursday, May 31.—Sir GEORGE COOPER in the chair.

Mr. YOUNG read the report of the committee appointed in July last, by which it appeared the committee had not come to any decision regarding the position of the debenture holders, but recommended that another committee should be appointed, to arrange some plan to resuscitate the company, securing the interest of the debenture holders, and to report the result to some future meeting. Mr. Young said, that the committee had ascertained that no doubt the shareholders were liable to the debenture holders; that the latter had not only the right to sue the corporation, but likewise the corporatives individually; this it would be useless to attempt, as were any claim raised against individual shareholders, it would be resisted by them. The Bank of England at present held a mortgage on their property of 270,000*l.*, of this 120,000*l.* had been advanced in cash, the other 150,000*l.* in debentures, which had been lodged as security with them; the Bank was unwilling to force the company into the Court of Bankruptcy; they were in possession of the property, which was making profits, and were they paid the 120,000*l.*, he had no doubt they would cancel the debenture claim. He was not prepared to recommend any plan; he would avoid litigation if possible; a committee of shareholders was already appointed; he thought a committee of debenture holders should be formed, to communicate with that committee, and by their joint labours arrange some scheme for the resuscitation of the company, but not to be armed with fresh powers to conclude any agreement without the consent of a full meeting of debenture holders.

On the question being put, that the report be received, Mr. ASHURST said, that he should oppose it. He represented two gentlemen who held debentures to the value of 19,000*l.*; he did not think that, if individually they should wish to take other measures, they should be bound by this resolution. In 10 months, it appeared that the committee which had been appointed had done nothing; the very question of their legal rights, to ascertain which was one of the sole objects of the committee, had been entirely neglected—in fact, the delay had been so considerable, that parties had began to think of their own rights; he should not oppose the resolution, but he must inform them, that he did not consider his friends bound by it. He would consent that a committee be appointed, not to arrange, but prepare some scheme, care being taken that they should not have the power of concluding any arrangement.

Mr. CATOR thought it would have been right that the meeting should have had a copy of the report before being called upon to receive it. The committee had kept them in the dark for 10 months; they could have read the charter, and seen whether the shareholders were not liable for debentures granted under their own common seal; he did not know what effect bankruptcy would have on the debenture-holders. He had no objection to the proposed committee, if it were not binding on individual shareholders, leaving them privately the option of asserting their rights, as they thought best.

Mr. YOUNG replied, that, according to the charter, if they became bankrupts, the mineral property would be lost, as it would revert to the lessees. If they were not unanimous, they might depend the Bank would enter into no negociation with them.

Mr. CATOR said, he could not see the force of this argument; in his opinion, so far from being prejudicial to their cause, he thought that individual litigation might accelerate their proceedings with the Bank, and render the shareholders manageable.

Mr. HARRISON said, the debenture holders had nothing to do with the bank; they must look to the shareholders.

Alderman CARDEN said that he had been so often on committees, that he had become tired of them; he had served already on seven committees connected with this company, and they had all ended as this would—in smoke. Their property was comparatively valueless; they had discovered they could make iron for the sum of little more than 5*l.* per ton, while their selling price was 4*l.* 10s. The directors had not the power to sue the shareholders for their calls; the only power they had was to forfeit the shares. He should subscribe nothing for the resuscitation of the company; it was a complete wreck. He would be willing to sell his debentures for 2s. 6d. in 1*l.* Here was a losing concern, producing iron for 5*l.* a ton, and selling at 4*l.* 10s. All the large ironmasters had large stocks of iron, and were making more. Where would be the demand for it? They must know that, although many railways had obtained bills, yet there was no likelihood of their ever being proceeded with, and for this depreciated property they were to be called upon to pay 120,000*l.*

Mr. INGLIS observed, that what was said by the worthy alderman with regard to the iron trade might be true, but there was their copper trade, and which, with a capital of 76,000*l.*, they had formerly produced 40 tons per week. If that were doubled, they would produce copper in the same ratio. He thought they should make a vigorous and efficient movement to resuscitate the concern. During the first 40 years of the present century, with only a capital of 100,000*l.*, they had made a dividend of 5 per cent.; this had been carried on until 1844, when things had changed for the worst.

Ald. CARDEN said the property was not worth 100,000*l.* Capt. Heavisides had been sent to reportupon it; after he had been there three days he had asked him if he would give 50,000*l.* for the plant, when he candidly told them he would not. He thought the best thing for them would be to allow the Bank to proceed against them. If they were put in the Court of Bankruptcy, there would be such a searching investigation, that they could obtain in no other place; there was an impossibility of their coming to any unanimity without such a step was taken—ruinous as it appeared to be, it seemed to him the best course they could pursue. If the property was put up to the hammer, they could purchase it at a much lower figure than it could be obtained from the Bank by negotiation.—A discussion here ensued; and ultimately the resolution, that the report be received, was carried.

On moving the next resolution, "that a committee be appointed with full powers to discuss and prepare any plan, without concluding any arrangement, and report the result to a future meeting," Mr. CATOR moved, as an amendment, that the words "and that without any prejudice to any of the debenture-holders who might choose to assert their rights by legal measures" should be added to the above.

The amendment, being put by the chairman, was negatived, and the original resolution carried.

On the question of a committee being appointed, it was found that none of the meeting were willing to serve, and it was ultimately agreed "that the present meeting do adjourn until this day month, or earlier—due notice being given in the paper, seven days previous, of such meeting.—The meeting then separated.

GUADALCANAL SILVER MINING ASSOCIATION.

A general meeting of shareholders was held at the offices, Broad-street-buildings, on Wednesday, May the 30th.

GEORGE HUXLEY, Esq., in the chair.

The SECRETARY (H. T. Ryde, Esq.) having read the advertisement convening the meeting, the report of the board of directors for the past year was submitted, as also a letter from Mr. W. Michell, the mining captain at Guadalcanal, dated the 18th May. DIRECTORS' REPORT.

The directors of the Guadalcanal Silver Mining Association have to report to the shareholders that they, in 1848, allotted the 2000 shares, and in the month of June following dispatched to Spain Mr. Duncan Shaw, as their superintendent, and Mr. William Michell, as mining captain, followed him in the month of July. In Sept. the directors sent out a 30-inch steam-engine and materials, complete, for unwatering the mines, and 15 men, selected in Cornwall, as competent miners and artificers. The men and the steam-engine reached Guadalcanal on the 4th of Nov., 1848, and there having commenced operations with much diligence, the engine was put up, and the unwatering of the mine commenced on the 26th of Dec., and the water was forked to the 30 fm. level on the 17th January, 1849. Here it was found, according to the plans of the mine already in the hands of the association, the shaft was no longer perpendicular, but was continued diagonally, following the dip or inclination of the lode. To effect the progress of the unwatering, it was requisite to put in additional machinery, which had to be made at the iron foundry of Pedroso, at a distance of several leagues from the mines; and as the shaft required to be cased, and all arrangements made to work the mines in a minerlike manner, the unwatering of the shaft to a lower level was necessarily suspended until all the machinery should be obtained and erected.

In March the directors engaged and dispatched 20 additional men to Spain. In the same month they received from the superintendent and captain a statement of the manner in which they proposed to work the Pozo Rico Mine. It appearing to the directors that this was the right mode of proceeding, they gave their sanction to it, as also to the denouncement of three new pertenencias, San Guillermo, La Bonita, and Santa Rosalia, which have been acquired by them, and which hold out every hope of proving very valuable additions; and Capt. Michell, in a letter, dated 20th April, 1849, says—"I consider this (La Bonita) as likely to prove a second Pozo Rico."

By letters received April 23d and 27th, it appears that all the machinery having been adjusted in a satisfactory manner, the unwatering from the 30 to the 51 fm. level commenced, and 4 fms. were forked in 36 hours; there is, therefore, every reason to conclude that the mine is now unwatered to that depth, and that of the explorations then commenced there will be a satisfactory report of progress on an early day.

On reaching the 30 fm. specimens of ore were obtained and forwarded to England, which, when assayed, were found to be not only of equal, but superior, quality to the specimens originally obtained from the Spanish company. The specimens sent over and assayed by Mr. P. Johnson, on the 25th March, yielded—

No. 1.—(From the 30 fm. in Pozo Rico)···· 4850 oz. to the ton of 20 cwts.
No. 2.— Ditto ditto ···· 4880 oz. ditto ditto

nearly 15 per cent. The specimens obtained from the Spanish company yielding only 10 per cent.; and in a letter dated 2d of May, Mr. D. Shaw says—"An assay of some mineral from the 30 fm. level has given me 16·13 per cwt.=3696 ounces fine silver to the ton of 20 cwts.

Amongst the communications received from Mr. D. Shaw, is one dated 24th of March, in which he calls the attention of the board to the plan they propose to follow when the mineral produced is sold, which, by the laws of Spain, and the terms of the lease, must be offered for sale by sample in Seville; and he adds that the Spanish company are willing to pay their proportion, one-third, for the erection of dressing machinery on the mines, which may be viewed as a strong proof of their opinion of the ultimate prosperity of the undertaking. The board of directors have not come to any decision on this question.

The balance-sheet of the association is laid before the meeting as audited to March 30, by Messrs. Le Mesurier and Quick, auditors of the association, by which it will be seen that up to that date the sum of 5535*l.* 8s. 5d. had been expended on the purchase of machinery, unwatering the mine, &c., leaving an available balance of 4464*l.* 11s. 7d.

The expenses of the mines may now be estimated at 450*l.* per month. The office expenses in England about 20*l.* per month, exclusive of the remuneration to the directors, which was originally fixed at 350*l.* for the year, ending May, 1849, but has not yet been paid to them. The legal expenses of the association have been very light, and the debts due by them are small, exclusive of the sum of 1200*l.* payable to the Spanish company for all materials, coals (upwards of a years' supply), coke, wood, and all machinery left by them on the mines, by two sums, of—600*l.* in August, 1849; 600*l.* in August, 1850=1200*l.* The directors have the fullest confidence in the richness of the mines, and as in the progress of the unwatering all the previous information has been verified in every step, so they rely most fully on a satisfactory progress and prosperous result.

The following is an extract from the captain's letter, dated May 18, 1849:—

"Since my last we have been enabled to get into the 43 fm. level; this level, considering the time it has not been unwatered, is in a very good state; it is quite clear in the north level, perhaps from the back not being worked; the south level from Pozo Rico has been worked in places some fathoms beyond the San Antonio shaft. As we have only two days forked to this level, we have had but little time to search these backs; it will take us some little time to clear away the settlement in the bottom of this level, when this is done I will set a man or two to search these backs. We have again to-day made another drop, making together 21 fms. on the diagonal, at which point there can be no doubt of the 52 fm. level; to this place we shall be in fork before Monday next, when I shall set the sumpmen to cut ground for cistern in the 43 fm. level, and change the work in this level to a plunger lift, it being now too long and unhandy for changing the boxes; and more, we can take up the greatest part of the water in this level, instead of drawing it from the 50. By the time this is completed, I hope the things for the small lifts will have arrived, so there will be no delay in our sinking below this level, and we shall soon convince all parties of our being able to unwater the mine, when I little doubt of having a good one. We have cleared through a run of attle about 20 fms., in the 31 fm. level, south of Pozo Rico, where we have met with whole ground; and, in stripping down the side, to make a proper level, which was part of the lode, we have broken some good work and fine specimens. I think there is a good deal of whole ground here, and there need not be much mineral, if as rich as the samples from the level, to be worth 50*l.* per fm., which I may venture to say it is worth at this time: near this point the lode has been intersected by a slide, which has split the lode and altered its course, and I am inclined to think the main part of the lode from this place south is unwrought; however, a small trial will prove this."

The statement of accounts having been read to the meeting, which showed a balance remaining in the directors' hands on the 31st of March of 4464*l.*, the CHAIRMAN said, that previously to putting any resolution, he should make a few remarks on the prospects of the company. The directors had from the first possessed great confidence in the undertaking; but it was one thing to feel confidence, and quite another to be able to impart that same feeling to the general body of shareholders; the only way to do this was to put them in possession of every fact, so that they might be able to know exactly the state of their affairs. When the company was first projected, a pamphlet had been sent to several shareholders; there being but few copies of this, it had not obtained the required circulation; and it being desirable that the shareholders should be fully informed of their proceedings, they had prepared another pamphlet (the proof sheet of which he had seen to-day), giving an account of the proceedings of the company from its formation to the present time; this in the course of a few days will be in the possession of every one, and they will be in the same position as the directors. The mine has been unwatered to a certain extent; and, according to Capt. Michell, they had ore in sight. The accounts, which had been laid before them, showed a surplus in hand of 4464*l.*; this, they must remember, was at the end of March. The balance at present was about 3600*l.*; out of this there remained to be paid to the Spanish company the sum of 1200*l.* The question was now, whether it would not be prudent to raise fresh capital, in order to develope the resources of the undertaking. He did not moote this question with any view that it should be adopted at this meeting; they had sufficient money in hand to carry out the work they had undertaken, to fork the water and discover the ore—there was every reason to believe they had a good mine in sight. The Spanish law forbids the export of mineral in its rough state; if sold on the spot, there would be a great depreciation of its value, and if sent to Seville the amount of carriage, waste, and other charges, would be so great, that less profits would be made. The case of the Australian Mining Company might be taken as an illustration of the necessity of smelting ore on the spot, in order to reap the full benefit of a rich mineral deposit, without being subjected to the serious drawback of costly freight for the transport of heavy substances, which must hereafter be thrown aside as worthless. He was aware this was not the object for which the meeting was summoned; in fact, according to the statutes, they were not competent to decide on this question, but it had been mooted to them by the board, that when brought forward at a general meeting, they could not be taken aback, or say that they were ignorant of the intention of the directors. The board had no wish to take any steps whatever without the full assent of the shareholders, but had thought it necessary, and their duty, to inform them of the course which they had considered beneficial to the interests of all. The directors were all largely interested in the mine, and had exerted themselves to the utmost of their abilities on behalf of the shareholders. In the year 1847, in the last day of September, some 16 or 17 parties, at their own expense, sent out Mr. Duncan Shaw to inspect the mines. On his return he had reported favourably of them, and they had again sent him out to obtain the lease. For this a sum of 500*l.* had been subscribed among themselves, for which they had never demanded any reimbursement. The Spanish company were entirely dependent on the success of the establishment. If they approved of the extension of capital, it could but afford a further proof to the shareholders of the value of the property. He repeated that there was no intention on the part of the directors to carry out immediately the measures recommended in the report; but they had thought it best that everything should be plain and straightforward, and for that purpose had laid open to them all the information they received. They had never trafficked in shares for the purpose of raising or depressing the market; and whatever information had been obtained from the mine had been immediately placed before the public.

Mr. LAMERT said, he and his friends were the holders of 1000 shares. If a further call of 1*l.* a share was made in these times, there would be probably a difficulty in raising the money. The object with which they started was to be a mining, not a smelting or assaying, company. If the report of their requiring fresh capital was bruited abroad, the shares would fall 10 per cent. He first wanted to see ore. Before the directors talked of raising fresh capital, they should give an account of the 10,000*l.* they had already received. They

had now about 3600*l.* in hand, and should see what could be done with that. He wished to ask what their present monthly cost was; and what would be the amount required to build smelting works?—The CHAIRMAN said, the expenditure was about 400*l.* per month; they had in hand enough for about five or six months.

Mr. HODGE observed, that the expense of erecting smelting-works would be about 5000*l.*; for this sum he would contract to erect them. People had a false idea of the cost of smelting-works; they had always in view the gigantic establishments in England; but abroad, and in Cornwall, there were small furnaces which did not cost 100*l.* each. The works that he would erect there for that amount should consist of winding and crushing machinery, four reverberatory, and two refining furnaces.

A SHAREHOLDER stated, that there were 14 or 15 silver smelting-works in Spain who would be willing to purchase all ores they might raise.

A desultory conversation here ensued as to whether an engine should be sent out to reduce the halvans of the old stock; ultimately it was decided that the paragraph in the report recommending the smelting of ores on the spot should be withdrawn.

The report was then approved of, and Mr. Quick elected an auditor for the year ensuing.—It was then resolved, that a sum of 350*l.* be paid to the directors for their services for the ensuing year, to be deducted out of the first profits of the mine.—A motion for a vote of thanks to the directors, for their exertions in the service of the company, was then put, and unanimously carried.

On returning thanks, the CHAIRMAN, on behalf of himself and colleagues, said, that they had no wish to accept any remuneration until the mine was paying a dividend.—The meeting then separated.

COMBLAWN MINING COMPANY.

A general meeting of adventurers, duly convened by the purser, was held at the offices, King-street, Cheapside, on the 31st May—P. P. COUCH, Esq., in the chair—when the minutes of the committee of 10th April and 8th May were read by the secretary (J. Crofts, Esq.), and confirmed.—It was resolved, that a treaty be entered into for the purchase of the engine now on Wheal Martha Mine; and the accounts for all labour and materials to the end of April last, having been presented, were paid, the mine being thus entirely out of debt.—The agent reported, that in clearing the adit at the old mine, 5½ fms. down, some fine stones of lead ore had been found amongst the attle.—Orders were given for the erection of a smith's and carpenter's shop, and for other work, preliminary to the placing the engine over the above shaft.

TREGORDEN MINING COMPANY.

A general meeting of shareholders was held at Liskeard, on Friday, May 25, when the accounts for Feb. and March were examined and passed, showing—Balance to end of January, 218*l.* 9s. 10d.; cost for February, 116*l.* 19s. 7d.; ditto March, 116*l.* 17s. 10d.=452*l.* 7s. 3d.—By call on 224 shares, made March 24th, 224*l.*; silver-lead ore sold, 128*l.* 1s. 3d.: showing balance due by adventurers, 100*l.* 6s. A call of 10s. per share was declared. The following report was read to the meeting:—

May 25.—The lode in the 12 fm. level north is 2 ft. wide, principally of friable quartz, 1 ft. of which being intermixed with lead is saving work. This level is driven, since the last meeting, 23 fms.; and the ground in both the back and bottom will pay well for working; present price for driving 30s. per fathom. This level south is driven 7 fms.; the lode throughout has produced an average quantity of lead, and in the present end it is 10 inches wide—good stamps work. The stopes in the back of this level are, on an average, turning out tolerably well. The last parcel of ore is sold to Messrs. Michell and Son, at 35*l.* per ton; and, about the 6th of June, we shall sample 5 tons of the same quantity.

WEST WHEAL TREASURY MINING COMPANY.

At a meeting of adventurers, held at the mine, on the 28th May, the accounts for two months ending March, were presented, showing—Labour cost, Feb. and March, 582*l.* 13s. 5d.; merchants' bills, 297*l.* 8s. 8d.; March 28th, book in debt, 41*l.* 7s. 1d.=921*l.* 9s. 2d.—By ores sold, May 10th, 802*l.* 14s. 1d.; tin sold, 10*l.* 6s.; received of tributers, 16*l.* 0s. 6d.: leaving balance due to purser of 92*l.* 8s. 7d.—The accounts, having been examined, were passed, and the agent's report, detailing the operations of the mine, and recommending the intersection of Wheal Maid lode, by driving a cross-cut from the 50, was received and adopted.—The following report, from Capts. J. Delbridge and T Richards, was read to the meeting:—

May 28.—We beg to lay before you our report of this mine, commencing with the engine-shaft, which is sunk vertically to the 70 fm. level: cross-cut driven north to the lode at this level about 3 fms., where the lode is extended upon west of the crosss-cut 4 fms., lode rather small and poor, but in present end 9 in. wide, with stones of copper ore. The 70 east is driven 4½ fms., the lode in the end has been 6 in. wide, but at present not so large, composed of copper ore. It should be remembered that in the 60 fm. level, we have had a good lode of copper ore for the last 35 fms. driven. In the winze, sinking below the 60 fm. level, 3 fms. east of the engine-shaft, lode producing 1 ton of copper ore per fm. The 60 fm. level, driven east of engine-shaft nearly 50 fms., lode in present end 10 inches wide, composed of killas and copper ore, producing half a ton per fathom. The 50 fm. level over this was very productive all the distance to the cross-course, which is nearly 40 fms.; in the winze, sinking below this level, lode producing 1½ ton per fm. The 50 fm. level is driven east of Field's shaft 18 fms., and 9 fms. east of cross-course, lode for the last 4 fms. small and poor—the same may be said of the present 50 end. Coulson's engine-shaft, sinking below the 20 fm. level, down 4 fms., lode north of the shaft of a rather kindly appearance. The 50 fm. level, on the Lanmack Moor lode, is driven west of the cross-course 6 fms., lode averaging 15 in. in width, producing stones of copper ore, but nothing of value; the same level is driven east of the cross-course 12 fms., lode large, and subject to ramifications—when first intersected at this level it had a more favourable appearance than it has of late. The 40 fm. level is driven east of Bickford's shaft 50 fms., the lode has produced much mundic and little copper, at present poor in the end; the 40 cross-cut, south of Bickford's, to get under Coulson's engine-shaft, ground rather hard, driven 5 fms., and have about 20 fms. farther to drive. The 30 fm. level, west of Field's shaft, cross-cut nearly 60 fms.; since last account we have intersected the caunter, which has not improved the lode—present end poor. The tributers are breaking a fair quantity of copper ore, which at 108 standard for 7½ produce, we consider sufficient to pay the working cost of the mine upon our present extended scale of operations. We think as the Moor lode in the 50 fm. level has not produced as yet much copper ore, it would be advisable to drive a cross-cut south in the 50 fm. level to intersect Wheal Maid lode, which will require about three months to cut into; until this be accomplished, we should recommend leaving the erection of an engine an open question.

WHEAL TREHANE MINING COMPANY.

A general meeting of shareholders was held at Liskeard, on Friday, the 25th May, when the accounts for January and February were examined and passed, showing—Balance from last account, 690*l.* 2s. 3d.; April 3, silver-lead ores sold, 1500*l.* 5s. 3d.=2190*l.* 7s. 6d.—Mine cost for January and February, and materials, 862*l.* 10s. 8d.; Trelawny Mine adventurers, for use of engine and water, 33*l.*; half-year's income tax, 9*l.* 6s. 8d.; lord's dues, 97*l.* 12s. 5d.; dividend declared March 22d, 512*l.*—leaving balance in favour of adventurers, 675*l.* 17s. 9d. A dividend of 2*l.* per share was declared. The following report from the agent was then read to the meeting:—

May 25.—We have commenced driving both north and south in the 68 fm. level, where the lode is improved. In the north end it is 16 in. wide, composed of capel, can, and mundic, with a leader of lead, and worth 6 cwts. per fm. The lode in the south end is worth 8 cwts. per fathom, and from its appearance, I expect that in a few feet driving we shall find it much better. The lode in the stopes in the back of the 55 fm. level is producing from 9 to 10 cwts. of lead per fm. The stopes in the back of the 45 fm. level are without any important alteration, worth 8 cwts. of lead per fm. The cross-cut in the 30 fm. level west is driven about 63 fms.; the ground (being killas) is without any material change, and moderate for driving. We intend to sample, to-morrow week, about 70 tons of ore of very rich quality.

GREAT WORK.—At a meeting of adventurers held on the 22d inst., the purser, Mr. J. W. Clarke, presented the accounts for Jan., Feb., and March, from which it appeared that the receipts had been—For tin sold, 3621*l.* 4s. 11d.; the expenditure, 2529*l.* 18s. 1d.: leaving balance in favour, 1091*l.* 6s. 10d.; to which add balance in hand Dec. last 467*l.* 19s.: leaves a total in favour of 1559*l.* 5s. 10d. A dividend was declared of 1190*l.* (being 10*l.* per share): leaving balance in purser's hands, 369*l.* 5s. 10d.

WHEAL MARGARET.—The statement of account to end of March shows—By tin sold, 96 tons 16 cwts. 1 qr. 17 lbs., 4332*l.* 10s. 1d.; sundries, 5*l.* 13s. 9d. = 4338*l.* 3s. 10d.—Labour cost and carriage, 2078*l.* 3s. 4d.; coals, 167*l.* 4s. 4d.; merchants' bills, lord's dues, &c., 631*l.* 15s. 1d. = 2877*l.* 2s. 9d.—showing profit of 1461*l.* 1s. 1d.; add balance from last account, 250*l.* 16s. = 1711*l.* 17s. 1d.—Dividend of 12*l.* per share, 1344*l.*: leaving now in hand, 367*l.* 17s. 1d.

ASHBURTON UNITED.—We understand the last month's amount of tin was 4 tons 2 cwts., which sold at the Charlestown Smelting-Works at 41*l.* per ton, which shows, we regret to say, that a considerable fall has taken place in the price of tin.

DISCOVERY OF A COAL MINE IN MAYO.—The *Castlebar Telegraph* announces that there has been a coal mine discovered on the estate of Thomas Phillips, Esq., Clonmore, in this county. The circumstances are as follow:—About a year since it was reported that something appeared on the surface of part of the demesne, which had the appearance of coal; some of it was brought to the house, and found to burn well; subsequently, some was used by the smith in the neighbourhood, who found it to answer his purpose well. Matters so remained until about a month since, when an engineer arrived from Dublin (Capt. Griffiths, a Welchman) to take a view of the spot where it was supposed the coal lay. His report was highly favourable; he said we had not only coal of a superior description in abundance, but also iron.

We learn, from a local paper, that a rich vein of lead ore has just been discovered on Mr. Collett's mines, in the county of Tipperary. Mr. Collett gives employment to nearly 500 labourers.

St. Ives Consols.—E. Berriman was descending to his work, with two companions, at the 147 fm. level—one going before, and the other after, when being about 80 fms. from surface, he must have slipped his holdfast, and fell about 6 fms., striking the person before him as he passed, but without knocking him out of the ladder, or doing him any injury. The deceased lived from that time till the 27th, when he died of some internal injury.

RAILWAY ECONOMY.—A few days since, some of the leading Staffordshire ironmasters had an interview with the London and North-Western authorities, on the subject of the manufacture of the metal for the rails. The iron-masters undertook to guarantee their rails for two years, and to institute a series of experiments for the purpose of producing iron of a quality best suited to the wear and tear of railway traffic. Friendly interviews of this character are always productive of great practical good.

RAILWAY CALLS.—The amount falling due during June, so far as at present advertised, is 527,102*l.* In the same month of last year, it was 2,277,674*l.*

ENORMOUS RAILWAY GIRDERS.—On Thursday last, two extremely massive cast-iron girders were removed from the premises of Mr. R. Crosland, the Union Foundry, Bradford. They each measured upwards of 58 feet in length, by 4 ft. in depth, and weighed nearly 16 tons each. They are intended for use in the construction of a bridge over the Chesterfield Canal, in the line of the Great Northern Railway, near Bawtry. The transit of these enormous castings through the town of Bradford was effected by means of a heavy waggon, drawn by a team of 12 horses, and excited considerable attention. They were conveyed to the canal wharf in Bradford, and were delivered on board a boat called the *Robert Peel*, belonging to Mr. Samuel Dixon, canal carrier, who, we understand, has engaged to convey all the castings contracted for. These extended nearly the entire length of the deck of the vessel.

THE MANCHESTER, SOUTH JUNCTION, AND ALTRINCHAM.—This line is now very nearly completed, so as to enable trains to pass over it, and on Monday the contractors took a great number of their friends from Manchester to Altrincham on an experimental trip, where they treated them with a dinner. It is expected that the line will be opened to the public on the 2d. July.

OPENING OF THE SHROPSHIRE UNION RAILWAYS.—Yesterday this important chain of railways, by which the county of Shropshire and the adjacent district are placed in direct communication with the metropolis, by means of the London and North-Western Railway, with which they communicate at Stafford, was publicly opened, so that after to-day a passenger taking his seat in the express train from Euston-square will be enabled to reach Shrewsbury (160 miles) in five hours. The first train over the Shropshire Union line, which is 30 miles in length, extending from Stafford to Shrewsbury, left the Shrewsbury station at 6 a.m., and reached Stafford at half-past seven, returned again at eight, and others followed during the day. The total cost of the line has been 500,000*l.*, and it is to be worked by the London and North-Western.

The recent discoveries of gold in Australia and Borneo, as announced by the late arrivals from those countries, are partly confirmed by the advices received yesterday from Ceylon. The field of precious metal said to exist in Port Philip, is a surprise which the inhabitants appear to have been quite unprepared for; for, although it was well known that copper was found in abundance near Adelaide, yet no one suspected that gold existed within 100 miles of Melbourne. Very little is yet communicated on the subject. The mines are said to be in a range of mountains called the Pyrenees, about 100 miles north-west of Melbourne. The next arrivals from thence will probably supply further particulars, which will be looked for with interest; in the meantime, it is stated that the discovery is only second in richness to California. For a century past it has been known that Borneo abounded in mineral wealth. Gold has been dug out of the alluvial soil, and washed out of the sand and gravel of the rivers at Sambas, Sangou, and Banjar, by the Malays and Chinese. It is also found in the limestone ranges of Sarawak; and, by the last China mail, it was announced that recent discoveries had been made of mines in that district, which were likely to add greatly to the value of the province. We shall next week give some particulars of the mode of extracting the gold from the crevices of limestone at Sarawak, from the work of Mr. Low, which will be read with interest at this time, when attention is so particularly directed to these discoveries, which, when taken in conjunction, may have an important influence on the trade of the world.

FRESH WATER FROM SALT WATER.—On Monday last the inventor of the new mode of instantaneously producing ice-cold fresh water from salt, exhibited his patent apparatus to his Royal Highness Prince Albert, at Osborne House, in the presence of the officers of the royal household and a numerous assemblage of naval officers. After the principle of the invention had been explained by Mr. M'Bride, his Royal Highness examined minutely each part of the apparatus, and particularly the refrigerator and aërator, as to the action of which he inquired in a manner which displayed his thorough acquaintance with the chemistry of the subject. After a patient investigation, his Royal Highness expressed to Mr. M'Bride his entire satisfaction with the results, and with the value and importance of the patent. On Wednesday, the patentee exhibited his apparatus to a distinguished party of the officers of her Majesty's navy and army, and the dockyard authorities at Portsmouth, and had the gratification of receiving the general expression of their approbation of the extreme simplicity and perfect result produced. Previous inventions of the kind have merely distilled sea-water, thus driving off the air and excess of oxygen—the components which render pure water agreeable; and the better the distillery process is performed, the more vapid, flat, and tasteless is the product. Mr. M'Bride's patent aëration claims to produce brisk, refreshing, and natural fresh water, containing the usual complement of air and oxygen and leaving no deposit of salt.

NEW PATENTS.

E. Grundy, Bury, Lancashire, woollen manufacturer, and J. Farrow, of the same place, manager, for certain improvements in machinery, or apparatus for preparing wool for spinning, and also improvements in machinery or apparatus for spinning wool, and other fibrous substances.

D. Smith, New York, America, lead manufacturer, for certain new and useful improvements in the means of manufacturing certain articles in lead.

R. E. Hodges, gent., Byeroft, Hereford, for improvements in mechanical purchases, which are also applicable in whole, or in part, to projectiles.

J. Dingdale and E. Birch, both of Manchester, tool and machine makers, for certain improvements in constructing and propelling ships, or other vessels.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

B. Levy, High Holborn, the Prince (an over-coat).
W. & G. Ashford, Birmingham, improved holder for whip-sticks, & other similar articles.
J. Pannell, Cowley, Middlesex, calorifere for greenhouses, conservatories, &c.
W. B. Pine, Strand, the mimosa, or flower cornet.
Wood and Co., Grove, Southwark, cigar lip-guard.
D. Hebson, Liverpool, rudder casing, and rudder for vessels intended to be steered at
W. Binion, Birmingham, lamp for railway carriages. [each end.
Theodore de Marillac, Manchester, oil-can spout.
S. Allen and J. R. Beard, Birmangham and Manchester, improvement in braces.
C. Walker and Sons, Clerkenwell, engineers, hydrant and gas sluice valve.
B. Cook, jun., Birmingham, over-tight bedstead sacking.
Charlotte Henry, Islington, anatomical stays.
J. Guest, Bedford, barley-cutting machine.
Halford and Joseph, Tipton, coke oven.
T. H. Pindar, Cheltenham, self-adjusting waistcoat.
W. Taylor, Birmingham, crushing roller.—*Mechanics' Magazine.*

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£22½
20,000	British North American	50	6	39
20,000	Colonial	25	5	6½
—	Commercial of London	20	6	20½
4,000	Ionian State	25	6	24½ 25
€0,000	London Joint-Stock	10	6	15½
20,000	London and Westminster	20	6	23½
10,000	National Provincial of England	35	5	35
20,000	National of Ireland	22½	6	18½
20,000	Provincial of Ireland	25	8	38
4,000	Ditto New	10	8	15
—	South Australia	22½	—	24 25½
20,000	Union of Australia	25	6	24
10,000	Ditto New	2½	6	2
60,000	Union of London	10	6	10½

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Rotterdam, 7000 ounces; ditto to Belgium, 4000—Silver bars to Copenhagen, 38,000; ditto to Rotterdam, 37,000—Gold coin to Belgium, 250.

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—At a General Meeting, held at the London Tavern, May 28, 1849, for the election of six additional pensioners, and for other business.

T. B. SIMPSON, Esq. (Vice-President, Treasurer, and Trustee), in the chair,

It was resolved unanimously,—That Henry Clark, Esq., of 159, Shoreditch, be elected a Vice-President of this Society.

At the hour of One o'clock, the Eighth Rule of the Society, regulating the Elections, having been read, it was—

Resolved unanimously,—That this meeting proceed to the election of six additional annuitants, from the list of 14 candidates, declared eligible by the committee—namely, four of the men and two of the women, polling the greatest number of votes.

The chairman having nominated Messrs. Constable, John Dale, and William Bowsee, as scrutineers, with power to nominate their assistants and deputies, the meeting proceeded to the ballot accordingly, when the following votes were recorded—for

	Votes		*Votes*
George Allan	2481	William Whitely	61
George Paul	2169	James B. Bowley	2
John Line	1020	Sarah Littlewood	788
Robert Frost	943	Ann Robinson	766
John Fletcher	791	Sarah Brown	106
William Dods	556	Sarah Ann Smith	56
John Large	491	Sarah French	42

Whereupon the chairman declared George Allan, George Paul, John Line, Robert Frost, Sarah Littlewood, and Ann Robinson, to be elected to pensions of 20 guineas each.

Resolved unanimously,—That the thanks of this meeting be presented to the several gentlemen who have so kindly and ably acted as scrutineers this day.

Resolved unanimously,—That this meeting having been informed of the resignation of the much respected honorary collector of the society, Mr. Ridge, in consequence of the growing duties of the office being no longer compatible with his business engagements, beg to offer him their best and most cordial thanks for the valuable services rendered by him to the society for nearly three years, by which such a considerable saving in the expenses of management has been effected, as to entitle him to a foremost rank among the benefactors of this institution.

Resolved unanimously,—That the thanks of this meeting be presented to the honorary secretary, Mr. Thomas Hawkins, for his untiring zeal and valuable labours on this and all occasions.

Resolved unanimously,—That the proceedings of this meeting be advertised, under the direction of the committee, with a notice of the seventh election of pensioners, in Nov. next.

Resolved unanimously,—That the best thanks of this meeting are due to T. B. Simpson, Esq., treasurer, vice-president, and trustee; and H. L. Taylor, Esq., vice-president and trustee, for their kindness and courtesy in presiding over the proceedings of this meeting.

T. HAWKINS, Hon. Secretary.

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—NOTICE.—The SEVENTH ELECTION of PENSIONERS will take place in NOVEMBER next. The candidates must be deserving and necessitous persons, occupying, or having occupied, the station of master, traveller, clerk, warehouseman, foreman, or apprentice, in any branch of the iron, hardware, or metal trades, in any part of Great Britain; or the widows of such persons. Printed forms of application may be had of the undersigned, to whom they are to be returned, filled up with the required particulars, on or before the 6th of August next, after which day no application relating to this election can be received.

Further information may be obtained on application to any member of the committee in town or country, or to THOMAS HAWKINS, Hon. Secretary.
67, Upper Thames-street, London.

IMPROVEMENTS IN MANUFACTURING IRON.

[Specification of patent granted to Edward Schunck, of Rochdale, chemist, for improvements in the manufacture of malleable iron, and in treating other products obtained in the process.]—*Mechanics' Magazine.*

This invention consists in separating the coating of tin from tinned iron scrap, in order that it may be manufactured into malleable iron, and in the subsequent recovery of the tin. The tin iron scrap is placed in a boiling or hot solution of an alkine sulphuret (by preference the persulphuret of sodium) containing sulphur in excess. The tin will be acted upon by the sulphur, and form a sulphuret of tin, which will be dissolved by the persulphuret of sodium, deprived of its excess of sulphur, and form what is termed by chemists a sulpho-stannate or stanno-sulphuret. The iron will be entirely freed from the coating of tin. Or, the tin iron scrap may be placed in a solution of oxide of lead, in a caustic alkali or soda ley. The tin, acted upon by the lead, will form an oxide of tin, which will be in turn acted upon by the caustic alkali, and the metallic lead precipitated in the form of a black powder. The iron scrap is then well washed with water, to free it from the solution, and when dried, placed in an iron cylinder of the capacity of about one cubic foot, which will contain, when subjected to moderate pressure, 8 lbs. The cylinder is heated to welding heat, and the mass hammered as usual in the manufacture of bar iron. To recover the tin in the first instance, the solution is boiled until a drop crystallizes on cooling, when the whole is allowed to crystallize, and strained through wire gauze. The crystals are placed in a press, to squeeze out the moisture, and subsequently in a reverberatory furnace, where they are exposed to low heat and roasted. The sulphur is partly expelled, and an oxide of tin formed. A mixture of coal, charcoal, or other carbonaceous matter and carbonate of soda, is thrown in, and the heat raised. The tin is then run out in a melted state into coolers, in the usual way. The slack that remains is a sulphuret of soda, to which sulphur is added in excess, in order that it may be again used. To recover the tin from the second and third solutions, they are boiled to the crystallising point. As the crystals form they are removed by a perforated iron scraper, and mixed while moist with carbonaceous matters, and treated as in the preceding case. The slack that remains in the furnace after the metallic tin has been run out is rendered caustic by the addition of quicklime and oxide of lead, or the chromate of an alkali.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Bate's West Hartley 13 6—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Hastings Hartley 14 3—North Percy Hartley 13 6—Old Tanfield 12—Ord's Redheugh 12 6—Ravensworth's West Hartley 13 6—Townley 13 3—Wylam 13 9—Wall's End Acorn Close 14 9—Gosforth 14 6—Gibson 13 6—Killingworth 14 3—Northumberland 13 9—Eden Main 15—Lambton Primrose 15 3—Belmont 15 3—Bell 14 9—Hetton 16 6—Lambton 16—Stewart's 16 6—Caradoc 15 3—Heugh Hall 14 9—Denison 14 6—Seymour Tees 14 9—Whitworth Coke 21—Hilda 13 9.—Ships at market, 83; sold, 51.

WEDNESDAY.—Bate's West Hartley 13 9—Buddle's West Hartley 14—Carr's Hartley 14 0—Old Tanfield 12—Ord's Redheugh 12 9—Original Tanfield 12—South Pearth 12—Tanfield Moor 13—Walker's Primrose 12—Wall's End Acorn Close 14 9—Framwell Gate 14 9—Hetton 16 6—Lambton 16—Russell's Hetton 16—Stewart's 16 6—Whitworth 13—Adelaide Tees 15 9—Bishop's Tees 14 6—Seymour Tees 14 9—Tees 16 3—Cowpen Hartley 14—Derwentwater Hartley 14—Hartley 13 9—Whitworth Coke 21—Elgin 14.—Ships at market, 147; sold, 101.

FRIDAY.—Bate's West Hartley 13 9—Buddle's West Hartley 14—Hasting's Hartley 14—New Tanfield 12 6—Ravensworth's West Hartley 13 6—South Pearth 13—Tanfield Moor 13—Tanfield Moor Bates 12 6—Walker's Primrose 12—Wall's End Bewicke and Co. 14 9—Elm Park 14 3—Gosforth 14 6—Northumberland 13 6—Percy 13 6—Riddell's 14 3—Eden Main 15—Bell 14 9—Hetton 16 6—Lambton 16—Russell's Hetton 16—Stewart's 16 6—Heugh Hall 14 6—South Hartlepool 15—Whitworth 12 9—Adelaide Tees 15 9—Bishop's Tees 14 6—Denison's 14 6—South Durham 14 6—Tees 16 3—West Cornforth 14 6—West Hetton 14 6—Derwentwater Hartley 14—Hartley 13 6—West Hartley Netherton 14—Sidney's Hartley 14—Whitworth Coke 21—Elgin 14.—Ships at market, 116; sold, 67.

RAILWAY TRAFFIC RETURNS.

Names of Railways.	*Length.* 1849	1848	Present actual cost.	Price p. share	Div. 1848	*Traffic Returns.* 1849	1848
Aberdeen	33	16	1,000,547	18	—	£ 540	—
Belfast and Ballymena	37½	37½	——	20½	5*	512	412
Birkenhead, Lancashire, & Chesh.	19	15	1,088,804	37	5†	856	674
Bolton, Blackburn, & West Yorksh.	14	—	786,384	7½	—	434	—
Bristol and Exeter	75½	75½	2,660,490	60 61½	—	4575	—
Caledonian	141	141	4,865,136	25	3	5455	3975
Chester and Holyhead	84	59½	3,358,217	15	4	1307	648
Dublin and Drogheda	35½	35½	774,875	29	—	782	840
Dublin and Kingstown	7½	7½	395,915	—	—	1121	1115
Dundee, Perth, & Aberdeen June.	47½	47½	844,554	24	6½	1103	920
East Anglian (Lynn to Ely)	91½	55½	1,167,104	2	—	724	512
East Lancashire	75½	24	2,628,519	16	5	2869	990
Eastern Counties and Norfolk	322	295	12,027,069	8½	—	15866	14846
Eastern Union	50½	50½	1,712,703	13	—	1220	1109
Edinburgh and Glasgow	57½	52½	2,644,376	42	6	4068	3525
Edinburgh and Northern	78	34	2,232,115	12½	2	2314	1518
Glasgow, Paisley, and Ayr	102½	74	2,574,330	57	8	3011	2115
Glasgow, Paisley, & Greenock	23	23	848,328	13½	2	995	1129
Gt. Northern & East Lincolnshire	126	—	4,255,171	10½ ½	5†	2282	—
Gt. Southern & Western, Ireland	168½	110½	3,172,519	30½	6†	3539	2396
Great Western	230½	205½	11,508,813	78	6½	17783	20942
Kendal and Windermere	10½	10½	174,600	5	—	147	162
Lancaster and Carlisle	70	70	1,476,102	48	4½	2161	1864
Lancashire and Yorkshire	206½	127½	9,218,450	25	5½	11738	9442
Liverpool, Crosby, & Southport	13	—	84,455	—	—	120	—
London and North Western	438	428	25,077,942	126	7	44543	42093
London and Blackwall	5½	4	1,299,678	4½	1-12	968	1059
London, Brighton, & South Coast	170	162½	6,382,231	36½	2½	12752	8127
London and South-Western	216½	194	7,510,689	34½	5½	11383	8630
Londonderry and Enniskillen	14½	14½	171,026	16	—	160	128
Manchester, Sheffield, & Lincolnsh.	129½	94½	6,048,679	30	5	3640	2571
Midland Company	471	423½	14,042,340	68½	5½†	22168	21198
Midland Great Western (Irish)	50	36½	725,332	24½	4†	1154	1051
Monklands	37	—	500,000	—	6	798	—
North British	109½	83	3,649,055	13	4½	3010	2081
Scottish Central	45½	—	1,364,228	24	7	1347	—
Shrewsbury and Chester	48	23	969,618	14	5	1363	540
South Devon	57½	29	1,909,232	15	5	1739	1565
South-Eastern	165½	165½	8,116,914	20½	5½	8068	8422
Taff Vale	40	40	879,110	—	7½	2164	1512
Ulster	36	36	723,829	45½	—	742	854
West Cornwall	13	—	——	——	—	——	——
Whitehaven Junction	12	12	150,879	9½	3	191	186
York, Newcastle, & Berwick	269	242½	6,827,849	20½	7	12907	12036
York and North Midland	255½	234	4,983,618	31	7	7209	8100
FOREIGN RAILWAYS.							
Amiens and Boulogne	76½	68	1,462,562	6½	2½	1173	1272
Dieppe	36	—	——	—	—	469	—
Dutch Rhenish	57½	57½	——	½	—	1011	956
Montereau and Troyes	71½	71½	——	—	—	656	—
Northern of France	211	211	7,143,890	9½	—	12047	10189
Orleans to Bourges (Central)	107½	107½	1,229,848	—	4	1980	2080
Orleans to Tours	72	72	600,000	32	6	2580	2602
Paris and Orleans	82	82	2,011,730	29	8½	6703	6987
Paris and Rouen	85	85	2,082,916	18½	5	5539	8836
Rouen and Havre	52½	—	2,272,176	9½	—	2886	1397
Strasburgh and Basle (monthly)	88	88	——	6	—	——	——
West Flanders (ditto)	—	—	——	1½	—	——	——

* Per cent.—† Interest.—Total for last week, £203,455, being an increase of £15,965 over last year.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 194½	Belgian, 4½ per Cent., 79
3 per Cent. Reduced Ann., 89¾ 90½ ¾	Dutch, 2½ per Cent., 49½ ¾
3 per Cent. Consols Ann., 91½ ¾ ⅞ ¾	Brazilian, New, 5 per Cent., 8 77½
3½ per Cent. Ann., 90½ 1 ½	Chilian, 6 per Cent., 91 2
Long Annuities, 8½	Mexican 5 per Cent., 29½
India Stock, 10½ per Cent., 250	Russian, 5 per Cent., 103
3 per Cent. Consols for Acc. 91½ ¾ ½	Spanish, 5 per Cent, 16½ 17
Excheq. Bills, 1000*l.* 2d. & 1½d. 45 8 pm.	Ditto 3 per Cent., 33½ ½

MINES.—The business transacted in the mining share market this week has been very limited indeed, still there are active inquiries for shares in some of our dividend-paying and improving mines. Several negotiations are consequently going on, which we expect will terminate in satisfactory sales. The dullness in the railway share market may have some slight influence on mining, as on all other speculative property, but we find many sellers in the former to invest in the latter, with the most perfect confidence, especially as regards the satisfactory and stringent manner in which mining accounts are generally kept.

West Buller continues to improve, and shares have very considerably advanced, and much inquired for.

West Caradon is reported to have considerably improved, and some important discoveries have been made; shares have, in consequence, been in demand at a considerable advance.

At Kingsett and Bedford the discovery made last week continues to improve, the lode being represented as 2 feet of solid ore.

At Wheal Calstock a fine course of copper has been discovered; this sett is immediately adjoining Wheal Zion, now about being commenced, and the discovery will no doubt greatly facilitate the formation of the company, and stimulate present operations.

South Friendship Wheal Ann, has improved; a fine course of tin in the 26 fathom level west, and also in the winze east.

Camborne Consols is represented to have considerably improved during the week, and several shares have changed hands in consequence.

Shares in the following mines have changed hands this week—viz.: East Wheal Rose, Devon Great Consols, West Buller, South Wheal Frances, Mary Ann, Herodsfoot, Trelawny, Birch Tor, South Tamar, East Tamar, Camborne Consols, Trehane, Tamar Consols, Bedford United, Cwm Erfin, Esgair Lli, South Friendship, &c., &c.

At the Wheal Trehane meeting, the accounts for January and February were audited, showing a balance of 675*l.* 17s. 9d. in favour of the company, with 70 tons of rich silver-lead ore for sale. A dividend of 2*l.* per share was declared, leaving a credit of 163*l.* 17s. 9d. to next account. Since the last meeting, the lode has been intersected in the 68 fm. level, and they have commenced driving north and south on its course, which is reported to be improving as they progress, as well as the stopes and ends in the other levels.

At the Wheal Tregorden meeting, for receiving the accounts for January and February, the balance sheet presesented showed a debit of 100*l.* to adventurers on the two months' working. A call of 10s. per share was deemed necessary, which, with the rich silver-lead ore already raised, will nearly place the mine out of debt at the next meeting.

At the Great Work meeting, the accounts for January, February, and March, showed the tin sold to have realised a profit of 1091*l.* 6s. 10d., which, added to balance in hand in December, allowed a dividend of 10*l.* per share, leaving balance of 369*l.* 5s. in pursers' hands, carried to credit of next account.

At the West Wheal Treasury meeting, the statement showed a balance of 92*l.* 8s. 7d. due to purser.

At the Wheal Margaret meeting a dividend of 12*l.* per share was declared. The accounts showed a profit of 1461*l.* for February and March; after payment of dividend a balance of 367*l.* 17s. is carried to credit of next account.

The Gaudalcanal Silver Mining Company's report enters into a full detail of the company's proceedings from the commencement. The reports from the mines, as to the efficiency of the machinery, and the progress at the surface and underground operations, are highly satisfactory. The latest accounts (18th of May) advise that the Pozo Rico Mine was nearly in fork to the 50 fathom level, and that fine specimens and whole ground had been discovered in the 30 fm. level, the latter valued at 50*l.* per fm. The suggestion of the directors to dress and smelt the ore on the mines, after being discussed, was postponed. The balance-sheet to 25th March showed an available balance of 4464*l.* 11s. 7d. The prospects of the company are considered highly encouraging, and the next dispatches are anticipated with much interest.

At the meeting of the General Mining Association a dividend of 1*l.* per share was declared. The company commenced operations in 1825, under a grant from the late Duke of York, for working some coal mines in Nova Scotia. We learn that the negotiations which have been so long pending between his Royal Highness's creditors and the company are likely to be brought to a satisfactory termination.

The meeting of debenture holders of the Company of Copper Miners in England (a full report of which will be found in another column), we regret to say, terminated without coming to any arrangement. There appeared to be an almost unanimous complaint, that the committee appointed in July, 1848, had been very remiss in their duties—in fact, so much so, that the debenture holders had began to think of acting for themselves individually. Various opinions were given by the several speakers of the value of the property, but the general feeling appeared to be, that a committee should be appointed to discuss and prepare an arrangement with the shareholders and the Bank of England. No one, however, was willing to serve on this committee; and, there being so little unanimity, the meeting was forced to adjourn, to give the debenture holders time to consider the report.

In foreign mines business has been equally heavy this week; a few transactions in St. John del Rey, Imperial Brazilian, United Mexican, Guadalcanal, Copiapo, and Bolanos, have taken place, but not at improved prices.

We gave last week the report from the Australian Mines to the 9th Feb.; but being pressed for space, were unable to furnish the usual summary. The captain's monthly report is to the 2d February, and advises the appearances of the lode, north and south of Goad's winze, as continuing productive. On Horne's lode the operations have been retarded, in consequence of the increase of water. In Anstey's shaft the ground continues hard—the progress, therefore, slow. In the 40, north of Phillips's winze, the lode had not been taken down in January. The ground in the new shaft, on Baker's lode, is easier for sinking. Cross-cuts are being driven from two winzes to intersect Anstey's lode, at which points a productive lode is anticipated. One hundred tons of copper ore was raised in January, 50 of which will realise 26 per cent., and 50 is expected to be worth 12 to 15 per cent.

Some large purchases have been effected in the North British Australasian Company. Since our last notice of this company, we learn that the *Cheapside* has arrived with 83 bales of wool and 100 tons of copper regulus, and the *Isabella Hercus*, with 26 bales, 56 tons of copper ore, and 63 tons of regulus, and that the *Catherine Jamieson* is shortly expected. We find from an assay of a sample of regulus, taken indiscriminately from the pile, that it gives16 per cent. pure copper.

The Peninsular and Oriental steamer, *Ripon*, arrived on Wednesday at Southampton, having on freight 216 packages of specie, valued about 70,000*l.*

MINING IN SOUTH AUSTRALIA.—The following is an extract from a letter received, on Thursday last, from Adelaide:—"I write in haste to inform you the mineral assayers here have discovered that the Burra Burra ore cannot be smelted to advantage by itself; they have, therefore, tried all the other ores, and find Reedy Creek ore the only one that will answer, which does very successfully. This, of course, must considerably increase the price of shares at home, while, even without this, the ore itself is richer than any here, and the deeper they go the finer the quality. I have no doubt but that company's mine will be a first-rate speculation, if the London directors do not meddle or interfere unwisely with their manager here, or enter into foolish speculations.'

MINING IN SPAIN.—From information which we have received, we understand that the lead mines of Linares in the province of Jaen, formerly the property of the late Marquis of Remisa, are about to be resumed. The district of Linares has a great celebrity in Spain for the richness of the lead ores it produces; from 1833 until 1843, the year that the mines were abandoned, over 6000 tons of lead were produced. The cause of their abandonment was a strike of the workmen for an advance of wages. One of the most profitable mines was that of the Pozo Ancho, which produced from 6 to 10 tons of lead per diem. The galena averaged from 75 to 80 per cent. for lead, and contained from 25 ozs. to 40 ozs. of silver to the ton. There are smelting-works in the vicinity, and fuel is abundant; while, at the same time, there is no scarcity of labourers. Lodes of copper are likewise found in this district, which is situated in one of the most fertile provinces of Spain. An English company have leased the mines, intending to form an association to develope their resources.

A sample of the melted ore, brought by the *Cheapside*, from Australia, being the produce of the mines at Kaw-aw, has been assayed, and found to contain 16 per cent. of pure copper. This, however, must not be considered as a fair assay of the whole bulk. A great mistake has been made in melting the ore, instead of calcining or roasting it.

In another column we have given some information received concerning gold discoveries in Peru, and we may now add, that the silver mines of Copiapo continue to be as productive as ever. In a table given of the number of marks of silver obtained from them, since 1831, we find that, during the—

First five years, they were ... *Marks*	300,363·1¼
Second	262,283·3¾
Third	518,624·1½
Three last years	626,093·3½
Total ... *Marks*	1,699,364·1¼

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwesin	8 ..	5
1024	Alfred Consols	8½ ..	7½
1000	Antimony & Silver-Lead	5 ..	5½
1024	Ashburton United Mines	8½ ..	12
1624	Balleswidden	9 ..	18
128	Balnoon Consols	42½ ..	50
10000	Banwen Iron Co.	6 ..	6
1000	Barristown	5½ ..	1½ 2
1000	Bawden	1 ..	1¼ ½
4000	Bedford	2½ ..	3¾ 4
1244	Birch Tor Tin Mine	9 ..	5½
8000	Blaenavon	50 ..	12½
5000	Blisland Consols	1 ..	6
100	Botallack	182 ..	25
120	Brewer	5 ..	3
10000	British Iron, New, regis.	12 ..	8
—	Ditto ditto, scrip	10 ..	10
128	Budnick Consols	52½ ..	12½
1000	Callington	20 14	15 16
1000	Camborne Consols	6 ..	6 6½
20000	Cameron's Steam Coal	7 ..	1 2
256	Caradon Copper Mine	9½ ..	1½
256	Caradon Mines	22½ ..	10
256	Caradon United	24 ..	5 8
256	Caradon Wh. Hooper	21 ..	4¾
1000	Carn Brea	15 ..	104
3000	Carthew Consols	1½ ..	5
114	Charlestown	220 ..	—
500	Comblawn	5½ ..	4½
128	Comfort	45 ..	60 65
256	Condurrow	20 ..	90
2560	Cook's Kitchen	14 ..	2½ 3
1000	Coombe Valley Quarry	3½ ..	4½
1000	Copper Bottom	1½ ..	6½
212	Craddock Moor	23½ ..	5
128	Creeg Braws	120 ..	30
500	Cubert Mine	12½ ..	—
1000	Cwm Erfin	3 ..	2¾
300	D. Prior & Buckfastleigh	— ..	—
7100	Derwent	8½ ..	5
845	Devon & Courtenay Con.	7½ ..	¾
1024	Devon Great Consols	1 200	5 10
1000	Dhurode	2 ..	5
186	Dolcoath	30 ..	15
2560	Drake Walls	5½ ..	3 4
10000	Durham County Coal	45 ..	9
3000	Dyingwm	10 ..	12½
512	East Alvenney	5½ ..	6 6½
2500	East Birch Tor	3 ..	3½
112	East Caradon	47 ..	47
2048	East Crowndale	6½ ..	4
512	East Combe Silver-Lead	6½ ..	6½
128	East Pool	15 ..	60 70
9000	East Tamar Consols	¾ ..	½ ¾ ¾
94	East Wheal Crofty	125 ..	65 70
1024	East Wheal Fortune	2 ..	3
128	East Wheal Rose	50	550 600
—	East of Scotland Iron Co.	5 ..	1½
123	East Wheal Seton	14 ..	10
1280	Esgair Lli	1½ ..	3 3½
248	Exmoor Wh. Eliza	6 ..	6
494	Fowey Consols	40 ..	45
1024	Freidd Llwydd Mines	1½ ..	3½
6400	Gadair	2 ..	2
4000	Gen. Mining Co. for Irel.	1½ ..	1½
256	Gonamena	44½ ..	16
128	Goonvrea	4 ..	2
256	Grambler & St. Aubyn	80 ..	12 15
100	Great Consols	1000 ..	120
512	Gt. Wh. Rough Tor Con.	18½ ..	20 22
2000	Growa Slate Company	5 ..	5
256	Gwinear Consols	7 ..	1
6000	Heignston Down Con.	1½ ..	1½
256	Herodsfoot	27 ..	12¾
10000	Hibernian	12½ ..	1½
239	Hobb's Hill	6 ..	1½
1000	Holmbush	22 .	10 15
1536	Holne Park	2 ..	5
1024	Kingsett and Bedford	1 ..	5 7
787	Kirkcudbrightshire	8½ ..	3 4
2048	Lamherooe Wh. Maria	7½ ..	2
252	Lanarth Consols	— ..	4
128	Lelant Consols	90 ..	40
160	Levant	— ..	180
1000	Lewis	16 ..	10½
1000	Llwynmalees	8 ..	8 8½
3600	Llynvi Iron	50 ..	50
256	Lostwithiel Consols	19 ..	14
6000	Marke Valley	10 ..	¾ 1
5000	Mendip Hills	3 ..	1 1½
128	Metha	34 ..	—
20000	Mining Co. of Ireland	7 ..	4¾ ½
1280	Nantycria	4 ..	4
256	New East Crowndale	3½ ..	2½
100	North Pool	45 .	640
140	North Roskear	5½ ..	150
262	North Wh. Leisure	1½ ..	2
256	North Wheal Basset	10 ..	10 12
15000	Northern Coal Co.	23 ..	2
128	Par Consols	55½ ..	800
8000	Pennant & Craigwen	2 ..	2½
1024	Penzance Consols	18s 3d ..	3
512	Plymouth Wh. Yeoland	6½ ..	6
200	Polsaith Consols	5½ ..	4½
2500	Rhoswiddol & Bacheldon	10 ..	10
10000	Rhymney Iron	50 ..	13
10000	Ditto New	7 ..	6½
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
2048	Runnaford Coombe Tin	¾ ..	12

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
9000	South Tamar	½ ..	½ ¾ 1
128	South Caradon	5 ..	400
1100	South Dolcoath	4 ..	5
256	Sth. Friendsh. Wh. Ann	30 ..	28 30
256	South Molton	5 ..	17
256	South Tolgus	14 ..	52½
256	South Trelawny	28½ ..	2 3
2000	South Wales Mining Co.	½ ..	1 1½
128	South Wheal Basset	20½ ..	300 10
124	South Wh. Frances	160 ..	250 60
256	South Wh. Josiah	— ..	3
1000	South Wh. Maria	2½ ..	1½
10000	Southern & Western, Irish	2 ..	4
280	Spearne Moor	30 ..	40
256	St. Austell Consols	9 ..	—
94	St. Ives Consols	— ..	70 90
128	St. Michael Penkivel	5 ..	10½
999	St. Minver Consols	1 ..	6
1000	Stray Park	43 ..	17½
9600	Tamar Consols	3 ..	7½ 8½
1024	Tavy Consols	6 ..	1½ 2
6000	Tincroft	7 ..	11 11½
1000	Tin Vale	2½ ..	2½
58	Tokenbury	170 ..	10
256	Tregordan	2 ..	4 6
256	Trehane	1½ 25	26 27
5000	Treleigh Consols	6 ..	2½ 2¾
2000	Trenance	3 ..	—
96	Tresavean	10 ..	120
120	Trethellan	5 ..	15 16
120	Treviskey and Barrier	130 ..	85
288	Trevean	1½ ..	5
100	United Mines	300 ..	200
256	Wellington Mines	25 ..	35 40
128	West Buller	10 ..	350 75
256	West Caradon	20 ..	125
512	West Fowey Consols	40 ..	12
256	West Providence	9 ..	15
200	West Seton	40	190 200
—	West of Scotland Iron Co.	240 ..	90
120	West Trethellan	5 ..	16
256	West United Hills	— ..	4½
512	West Wheal Frances	1½ .	2
256	West Wh. Friendship	9 ..	8
3725	West Wheal Jewel	12 ..	½ 1 ½
256	West Wheal Tolgus	80 ..	11 12½
256	West Wheal Treasury	19 4½	5½ 8
1024	Whiddon Mines	4½ ..	2
5200	Wicklow Copper	5 ..	7¾ 7¾
107	Wheal Adams	79 ..	30
1000	Wheal Agar	— ..	8
256	Wheal Albert	10 ..	1
240	Wheal Anderton	25½ ..	29½
128	Wheal Ann	— ..	50½
512	Wheal Anna Maria	6½ ..	8
1024	Wheal Ash	4½ ..	8
120	Wheal Bal	5½ ..	15
256	Wheal Benny	14½ ..	2
256	Wheal Blencowe	21 ..	10
256	Wheal Bucketts	20 ..	8
2324	Wheal Calstock	9 ..	15
268	Wheal Courtenay	12½ ..	—
256	Wheal Fortescue	6½ ..	—
388	Wheal Franco	27 ..	12 15
128	Wheal Harriet	45 ..	—
100	Wheal Henry	— ..	20 5
112	Wheal Margaret	79 ..	200
512	Wheal Mary Ann	5 ..	19 20
208	Wheal Mary Consols	60½ ..	8
—	Wheal Penhale	— ..	12
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	41 ..	150
128	Wheal Rose	60 ..	3
198	Wheal Seton	214 ..	250
180	Wheal Sisters	35½ ..	5
494	Wheal Sophia	4½ ..	5
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	30 ..	35
550	Wheal Trescoll	7 ..	10
260	Wheal Trelawny	7¾	75 80
256	Wh. Tremaine (St. Ervan)	9½ ..	2½
1024	Wheal Tremayne	9½ ..	3 4
92	Wheal Tryphena	140 ..	100
1000	Wheal Vincent	2 ..	7
256	Wheal Vlow (Perranz.)	½ ..	½
184	Wheal Vyvyan	— ..	60
250	Wheal Williams	28½ ..	8

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½ ..	2½
15000	Asturian Mining Co.	15 .	3½ ¼
20000	Australian	3 ..	5½
10000	Anglo-Mexican Co.	100 ..	¼
12374	Ditto Subscription	25 ..	1½
6000	Barossa Range	1½ ..	1½ ½
3000	Bolanos	150 ..	1½
2000	Ditto Scrip	15 ..	2½ 2½
10000	Brazilian Imperial	23 ..	3½ 4
12000	Cobre Copper Co.	40 ..	24½
10000	Copiapo Mining Co.	14 ..	4 4½
20000	General Mining Ass'n.	20 ..	14
4000	Guadalcanal	5 ..	9 10
5000	Kinzigthal Mining Ass.	2 ..	1½
5051	Mexican Company	59½ ..	—
2000	Mexican & South Amer.	8 ..	1 1½
5000	National Brazilian	30 ..	3½ 4
104000	N. Brit. Australasian	1 ..	5s 9d
7000	Royal Santiago	10 ..	5½
11000	St. John del Rey	15 ..	11½ 12
13174	United Mexican ... Av.	28½ ..	2½

LATEST CURRENT PRICES OF METALS.

LONDON, JUNE 1, 1849.

ENGLISH IRON. *a*	*per ton.*
Bar, bolt, & square, London	£5 15 0
Nail rods	6 15 0
Hoops	7 15 0
Sheets (singles)	8 15 0
Bars, at Cardiff & Newport	4 15—5
Refined metal, Wales*	3 10—15
Do. anthracite*	3 15 0
Pig, No. 1, Wales, cold-blast	3 0—4
Do. do. hot-blast	2 15—3 2 6
Do., No. 1, Clyde .... *net cash*	2 4 6
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3 15 0
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0
Stirling's Patent Toughened Pigs in Glasgow	2 17 6—3 2 6
Stirling's Patent Toughened Pigs in Wales	3 10—4
Staffordshire bars, at the works	6 10
Pigs, in Staffordshire	3 0—3 5
Rails	5 15 0
Chairs	4 0 0
FOREIGN IRON. *b*	
Swedish	11 10—12
CCND	—
PSI	—
Gourieff	—
Archangel	—
FOREIGN STEEL. *c*	
Swedish keg	14 0—14 5
Ditto faggot	15 0—15 5
ENGLISH COPPER. *d*	
Sheets, sheathing, & bolts, *p. lb.*	0 0 9
Tough cake .... *per ton*	79 10 0
Tile	£78 10 0
Old copper *e* .... *per lb.*	7*d*—8¾*d*
FOREIGN COPPER. *f*	
South American, in bond	—
ENGLISH LEAD. *g*	
Pig .... *per ton*	16 0 0
Sheet	16 15 0
Red lead	17 10 0
White ditto	22 0 0
Patent shot	19 10 0
FOREIGN LEAD. *h*	
Spanish, in bond	15 0—15 5
American ditto	—
ENGLISH TIN. *i*	
Block .... *per cwt.*	3 17 0
Bar	3 18 0
Refined	4 4 0
FOREIGN TIN *k*	
Banca, in bond	4 3 0
Straits	4 1 0
Peruvian (6 mo 2½ p. ct. dis.)	—
TIN-PLATES. *l*	
IC Coke .... *per box*	1 7 0
IC Charcoal	1 11 6
IX ditto	1 17 6
SPELTER. *m*	
Plates, warehoused .... *per ton*	15-15 5
Ditto, to arrive	—
ZINC. *n*	
English sheet .... *per ton*	24 0 0
QUICKSILVER *o* .... *per lb.*	0 3 2

REMARKS.—Though the metal market generally continues in a very dull state, and the business transacted during the week past has been small, Welsh bars must be written rather firmer, at 4*l.* 15s. per ton at the port, less 3 per cent. discount for cash, whilst the makers of favourite brands decline orders below 5*l.* per ton. Contrary to general expectation, the decline in the price of Scotch iron appears to have received a check; several sales have taken place at an advance of from 1*l.* 6d. to 2s. per ton upon the late lowest quotations. We quote the price to-day 43s. 6d. to 44s. for mixed Nos., and 44s. 6d. to 45s. for all No. 1 Gartsherrie and Calder, net cash, free on board at Glasgow. English copper has fallen 1d. per lb., and English tin 4*l.* per ton.

GLASGOW, MAY 31.—There has been more inquiry for pig-iron this week, and sales to some extent have been made at an advance on last week's prices. The price of mixed Nos. may be quoted at 44s.—cash.

— MONTHLY REPORT.—There has been comparatively little business done in pig-iron during this month. From the 1st to the 24th the price gradually declined from 46s. to 41s. 6d. On the 25th a reaction took place, and prices have since risen—the advance being, to some extent, favoured by the reduction in the interest of money. But so long as the production continues to be greater than the actual demand for consumption, any advance in price can only be temporary. The present quotations are—

All No. 1	44s 6d—free on board here.
All No. 3	43 0 "
Mixed Nos.	44 0 "

And in the Forth—all No. 1, 46s.; all No. 3, 45s.; mixed Nos. 45s. 6d.

Common bars are	£5 15 0—four months' bill.
Nail-rods	7 0 0 "
Sheet-iron	7 15 0—£8 "

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS.
WORKS—Smethwick, near Birmingham.
LONDON WAREHOUSE—No. 6, Upper Thames-street.

MISCELLANEOUS COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
0,000	General Steam Navigation	14	1½*	22
11,600	Peninsular and Oriental Steam	50	7	68½ 68
—	Royal Mail Steam	—	5½	50½ 1
10,000	Australian Agricultural	30	1	16½
10,000	British American Land	35½	—	14
8,915	Canada	32½	6	31
20,000	New Brunswick	75	—	—
8,000	South Australian	25	6	16
20,000	Upper Canada	100	5	70
10,000	Mexican and South American	7	—	3½ 4

FLUCTUATIONS IN THE STOCK AND SHARE MARKET,

DURING THE MONTH OF MAY.

Stocks and Shares.	Share.	Paid.	Pr. May 1.	Highest.	Lowest.	Present
Consols	—	—	92	92½	90½	91¾
Exchequer Bills (June)	—	—	44s-47s pm.	49s pm.	44s pm.	45s-48s pm.
RAILWAYS.						
Brighton	Stock	£50	£38½	£38½	35¾	36½
Birmingham and Oxford	£20	20	25½	25½	24	25
Caledonian	50	50	27½	27½	23½	24½
Eastern Counties	20	20	8½	8¾	7½	8½
Great Northern	25	20	10¾	10¾	10	10½
Great Western	100	100	90	91	76	78
London and North-Western	Stock	100	131	132	123½	125
Midland	Stock	100	68	69½	63½	68
North Staffordshire	20	17½	13½	13½	11½	12½
South-Eastern	£33 2 4	33 2 4	21½	22	19½	20½
South-Western	Stock	50	35½	35¾	32½	34
York, Newcastle, & Berwick	Stock	25	20½	21	19	20
York and North Midland	50	50	35½	36	28½	30½
Boulogne and Amiens	20	20	8½	8½	6	6¾
Northern of France	20	12	11½	11½	8½	9
East Indian	50	3½	3½	3¾	2½	3
Great Indian Peninsula	5	½	½	½	½	½

In Consols the range has been only 2 per cent.; but in shares the variations have again been excessive, and the result has been a further heavy depreciation in almost all descriptions—those of the Eastern Counties Company furnishing the only instance of even a small advance.—*Times.*

COPPER ORES.

Sampled May 16, and Sold at Tyack's Hotel, Camborne, May 31, 1849.

Mines.	*Tons.*	*Price*	*Mines.*	*Tons.*	*Price.*
North Pool	105	£5 13 6	Tincroft	23	£9 11 6
ditto	102	5 6 0	South Wh. Basset.	85	3 15 0
ditto	99	2 13 0	ditto	77	4 11 0
ditto	98	3 4 0	ditto	68	4 16 0
ditto	96	4 17 6	ditto	67	10 16 6
East Wh. Crofty	80	3 18 6	ditto	57	3 14 0
ditto	78	4 10 6	ditto	4	5 0 0
ditto	53	3 6 0	Fowey Consols	92	5 10 6
ditto	48	1 15 6	ditto	83	5 5 0
ditto	44	4 16 0	ditto	73	5 2 6
ditto	42	4 0 0	ditto	56	4 13 6
ditto	38	0 10 6	Condurrow	82	3 4 6
Dudnance	61	6 12 6	ditto	65	4 4 6
Longclose	34	4 10 6	ditto	51	3 17 0
Camborne Vean	78	5 9 6	ditto	40	9 1 6
ditto	71	4 1 0	ditto	18	1 12 6
ditto	65	3 10 6	Wh. Mary	98	5 7 0
ditto	60	2 12 6	ditto	62	3 3 0
ditto	59	3 15 0	ditto	49	6 9 6
ditto	58	1 7 6	East Pool	71	4 14 0
ditto	44	3 5 0	ditto	48	1 14 6
Wh. Frances	15	2 16 6	ditto	45	3 5 0
Wh. Seton	103	5 4 6	ditto	40	0 15 6
ditto	101	3 3 6	Dolcoath	63	4 6 6
ditto	96	3 18 0	ditto	54	4 19 6
ditto	76	5 5 0	ditto	38	2 7 0
ditto	24	2 14 6	South Wh. Frances	62	12 18 6
ditto	20	4 11 6	ditto	42	8 0 0
Tincroft	80	3 0 6	ditto	33	6 17 6
ditto	79	2 5 0	ditto	13	6 10 0
ditto	52	4 4 6	Creeg Braws	33	6 14 6
ditto	51	4 2 6	ditto	28	2 19 0
ditto	43	5 13 6	ditto	27	2 2 0
ditto	42	1 15 6	Wh. Tryphena	6	8 12 6

TOTAL PRODUCE.

North Pool	500	£2180 8 6	Fowey Consols	304	£1579 19 6
East Wh. Crofty, Dudnance, Longclose	478	1884 3 6	Condurrow	256	1127 13 6
Camborne Vean, Wh. Frances	450	1587 12 0	Wh. Mary	209	1036 17 6
			East Pool	204	593 15 0
Wh. Seton	420	1789 3 0	Dolcoath	155	630 8 6
Tincroft	370	1388 12 6	South Wh. Frances	150	1448 14 6
South Wh. Basset.	358	1951 13 6	Creeg Braws	88	361 4 6
			Wh. Tryphena	6	51 15 0

Average Standard .... £ 93 1 0 | Average Produce 7¾
Average Price per ton £4 9 0
Quantity of Ore .... 3948 tons | Quantity of Fine Copper, 305 tons 18 cwts.
Amount of Money £17,612 1 0
LAST SALE.—Average Standard .... £ 98 5 0.—Average Produce 7½
Standard of corresponding sale last month, 105*l.* 8s.—Produce, 7¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	277	£889 19 0
Vivian and Sons	688	2792 18 0
Freeman and Co.	232	1415 16 0
P. Grenfell and Sons	939	3445 1 6
Williams's Crown Copper Company	52	436 11 0
Sims, Willyams, and Co.	456	2039 5 6
Williams, Foster, and Co	1220	6160 4 0
Schneider and Co.	84	432 6 0
Total tons	3948	£17,612 1 0

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 884—Tywarnhayle 420—Par Consols 366—Wheal Tremayne 139—West Wheal Seton 130—West Wheal Buller 127—Wellington Mines 106—Wheal Rodney 89—Wheal Agar 87—Charlestown United Mines 70—South Wheal Fortune 43—Trenance 16—Francis's ore 12—North Godolphin 10—West Wheal Providence 9.—Total, 2508 tons.

NO SALE on Thursday week, June 14.

THE STANDARD.—We regret to notice, by the sale on Thursday, that a further decline has taken place—making a fall of 13½, compared with that of two months back.

BLACK TIN

Mine.	*Tons.*	*Price.*	*Purchasers.*
Runnaford Coombe	5½	£47 17 6	Daubuz.
Drake Walls	5½	46 0 0	J. H. Enthoven & Co.
ditto	5¾	36 7 6	Calenick Smelting Co.
ditto	4	37 2 6	ditto
Charlestown	6½	39 10 0	ditto
ditto	½	37 5 0	Bissoe Company.
ditto	½	26 12 6	ditto
Great Polgooth	15	42 0 0	Daubuz.
ditto	15	42 0 0	Calenick Smelting Co.
ditto	15	42 0 0	Williams and Co.
ditto	15	42 0 0	J. H. Enthoven & Co.
ditto	3	38 0 0	Bissoe Co.

COPPER ORES

At SWANSEA, for sale June 7.—Cobre 77, ditto 75, ditto 71, ditto 70, ditto 67, ditto 66, ditto 58, ditto 99, ditto 86.—Burra Burra 63, ditto 62, ditto 51, ditto 49, ditto 12, ditto 52, ditto 50, ditto 48, ditto 47, ditto 40.—Berehaven 126, ditto 118, ditto 104.—Burra Burra 70, ditto 66, ditto 40, ditto 18, ditto 62, ditto 35, ditto 65, ditto 62, ditto 60, ditto 4, ditto 33, ditto 13.—Knockmahon 107, ditto 45.—Ballymurtagh 57, ditto 44.—French Slag 27.—Total quantity of ore to be sold, 2299 tons.

MINING APPOINTMENTS FOR JUNE.

1. Carn Brea, East Pool, and South Basset pay and setting.
2. West Jewel pay and setting.
4. Budnick account.
5. South Basset account, on the mine.
6. Devon Consols, and other mines, sampling.
7. Ticketing at Redruth, Carn Brea, and other mines.
8. Stray Park account, on the mine.
11. Wheal Seton account, on the mine.
13. Wheal Mary account, on the mine.—United and other mines sampling.
14. No copper ore ticketing this week.
16. Wheal Mary pay day.
18. Condurrow account, on the mine.
19. East Pool account, on the mine.
20. North Roskear, North Pool, and Wheal Seton sampling.
21. Ticketing at Andrew's Hotel, Redruth, Devon Consols, and other mines.
23. Wheal Seton pay day.
26. North Pool account, on the mine.
27. Carn Brea and other mines sampling.
28. Ticketing at Farquharson's Hotel, Truro, United, and other mines.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars .... per oz.	£3 17 9	New dollars .... per oz.	£0 4 10
" Portugal pieces	0 0 0	Silver in bars (standard)	0 4 11½

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

THE ABERGWESSIN MINES.—Mr. P. P. Couch (the purser), in reply to the assertion of "An Engineer," in his paper on "Railways and Mines as Investment," in last week's Journal, that Abergwessin shares were at 3*l.* each, writes—"As the purser of the Abergwessin Mines, I feel it my duty to say, that the statement, as far as it refers to those mines, is grossly inaccurate. I believe I am correct in saying, that not a single share in the Abergwessin Mines has been sold up to this moment under par; nor do I know of a shareholder disposed to sell at any price. I was instructed, on the 20th of April last, to sell 83 forfeited shares in these mines for the benefit of the general proprietary; and I can only say, that they were all bought by the other shareholders, at several pounds per share above the price quoted by 'An Engineer.'"

IMPROVEMENTS IN THE STEAM-ENGINE.—In our notice of Mr. Petrie's apparatus, in last week's Journal, the testimonial we selected should have been printed as "from Messrs. Walker, Oldfield-road, Salford," instead of "Messrs. Walker, Blue Pits, near Rochdale."

J. Bridges (St. Helier's, Jersey).—The project was started in Adelaide. We do not believe shares can be obtained in this country.

ECONOMY IN LOCOMOTION.—"An Engineer of the Next Generation," referring to his letter, inserted in last week's Journal, writes:—"Will you allow me to add, at the end of the words 'we shall have 40 tons or 50 tons conveyed at a high speed, or double that weight at a moderate speed,' a distance of 10 miles, at a cost for fuel not exceeding the expense of a pound of gun-cotton."

"An Engineer" (Brighton).—We would advise you to communicate with C. Manby, Esq., secretary to the Institution of Civil Engineers, Great George-street, Westminster.

"J. S." (Paddington).—Engraving on steel was first brought into general use about 1818. The methods adopted are similar to those employed in engraving on copper, differing only so far as is necessary on account of the hardness of the metal.

"Miner" (Redruth).—The office of the Worthing Mining Company is 76, Cornhill. They have not yet commenced any operations on a large scale.

"L. M." (Wolverhampton).—The suspension bridge over the Danube, at Pesth, was built under the direction of Mr. W. T. Clark; it cost 650,000*l.* sterling. The bridge has a clear water-way of 1250 feet, the centre opening being 670 feet. The height of the suspension towers from the foundation is 200 feet. The sectional area of the suspending chains is 320 square in. of wrought-iron, and the weight of the same 1300 tons.

"A Speculator" (Austinfriars).—The Guadalcanal Mines, near Seville, were formerly the property of a family of the name of Fuchars; they are said at one time to have been so enormously rich, that from the dues alone the palace of the Escurial was built.

J. Luke (St. Austell).—Mr. John Trennery is the superintendent of the iron foundry at Drontheim. A letter addressed him, care of Messrs. Hoe and Co., of that city, will be sure to reach.

"T. B." (Cornhill).—The Act of Parliament for building Ramsgate Pier was passed in the year 1747.

"C. G." (Madrid).—The price of quicksilver varies from 5*s.* to 7*s.* per lb., according to its purity and the supply in the market.

Owen Davis (Swansea).—One of the easiest and most accurate assays for ascertaining the quantity of metal remaining in the slag is by the precipitation of ammonia. A normal assay can be quickly made, and by the intensity of the blue colour, a little practice will enable a careful manipulator to ascertain correctly the per centage of the metal.

"E. B." (Albany).—The process of daguerreotyping is thus performed—a silvered copper plate is carefully polished with pumice stone, dilute nitric acid, and cotton, and placed in a box, at the ordinary temperature, over iodine, till the vapours of the iodine have covered it with a yellow film of iodide of silver. It is then placed for some minutes in the camera obscura, which allows the illuminated picture of an object to fall upon the place. (The light which falls on the plate probably separates iodine from iodide of silver, and sets silver free, chiefly on those parts where its action is most intense). The plate, on which no alteration is perceptible, is now placed in a dark covered box, on an angle of 45°, over a vessel containing mercury, heated to 75° Celsius (167° Fahr.) till the desired shading is produced. The mercury, which rises in vapour, does not adhere to the portion of the surface covered with undecomposed iodide of silver, but only to the silver which has been set free by the action of the light, with which it forms an amalgam in drops about 1-800th millimetre in diameter. Lastly, the plate is immersed in a solution of hyposulphate of soda, then washed with hot water and dried. In order to obtain more distinct shading, Fizeau spreads upon the plate prepared by Daguerre's method, a solution of 1 part of chloride of gold, and 3 parts of hyposulphate of soda, in 1000 parts of water, and heats it gently for a minute or two. The gold which is precipitated from the silver imparts a deeper black to it: the mercury which combines with it makes the colour darker and more lasting.

"Chemicus" (Birmingham).—A slender stick of tin being placed in a solution of the muriate of titanite, the solution becomes first rose, then ruby red, and then of an amethystine hue. Zinc thus produces first a violet, and then a deep indigo blue. The prussiate of potash produces a green precipitate from the muriate of titanium; and if an alkali be added while it remains with the same fluid, it passes through beautiful tints of purple and blue, becoming at the end white.

T. Hughes (Long Acre).—The following is a composition much used to take off casts:—Melt eight ounces of sulphur over a gentle fire, and with it mix a small quantity of fine vermillion; stir it well together, and it will dissolve like oil; then cast it into the mould, which is first to be rubbed over with oil. When cool, the figure may be taken and touched over with diluted nitric acid.

"An Engineer" (Liverpool).—The mountain of Swappevara, in Sweden, consists almost entirely of ironstone; but there is no fuel in the neighbourhood to render it available. About two years since, the Swedish Government proposed to erect blast-furnaces at Ofoten, in Lofodden, on the Norwegian side, intending in winter to convey the ore there by sledges, and purchase coal in England, to be converted into coke on the spot. The distance from Swappevara to Ofoten is about 80 miles. The workmen were to have been supplied from the convicts. The estimates were, however, so large that, upon mature consideration, the Government decided on abandoning the project.

A. Roquette (Paris).—The process of gilding metal buttons is as follows:—After the button is formed, it is passed, while warm, through a mixture of aquafortis and water, called pickle, and afterwards, when cold, is dipped in a second pickle, composed of nitric acid and water; it is then burnished by the lathe, to render the surface smooth, and close up the pores of the metal, previous to gilding. When thus prepared, a great number of buttons are put into an earthen pan, with the proper quantity of gold to cover them. According to Act of Parliament, 5 grains of gold are allotted for the purpose of gilding 144 buttons, which gives to each a surface equal in thickness to about 107,000th of an inch. The gold is amalgamated with mercury, by holding it over the fire in an iron ladle, until they are perfectly united. This amalgam being put into the pan with the buttons, as much aquafortis diluted with water, as will wet all over, is thrown in, and they are stirred up with a brush until the acid, by its affinity to the copper, carries the amalgam to every part of its surface, covering it with the appearance of silver. When this is perfected, the acid is washed away with clean water; this process is called quicking. The buttons are now put in a large pan, and shaken over a fire until the mercury has the appearance of melting. When this takes place, the buttons are put into a cap of felt, and stirred about with a brush to spread the gold contained in the mercury, equally over the surface. They are then returned to the pan, and the heat causes the mercury to fly off in vapour, the buttons beginning to turn yellow, from the gold discovering itself as the mercury dries off. When they do not perfectly dry in the pan, they are put into a cylindrical copper box, which is laid on a charcoal fire, and turned round to heat all parts equally. When taken from this box, the gilding is complete, and they are handed over to the burnishers to receive the polish. They pass through the hands of three burnishers to perfect them. The process of silvering is nearly the same, but a pickle of cream of tartar and silver is substituted for nitric acid.

Isaac Whitehouse (Ruthell).—Naphtha is of great use in the manufacture of varnish; it is likewise employed for removing spots of grease from woollen and other stuffs; but it is almost impossible to destroy the disagreeable odour which it emits.

"H. C." (Queen-street.)—There are marble quarries on the island of Bornholm, these are worked partially by private individuals, who pay a duty to the Danish Government.

"LONDON, LIVERPOOL, AND DUBLIN COAL CONSUMERS' COMPANY."—We have received a long rambling letter from Mr. Fenton, one of the directors of this concern, in which we are charged with rendering our columns "the vehicle of unmitigated slander, on grounds perfectly untenable, against an undertaking seeking to effect a great public good," and as the writer asserts, or believes, "from private motives alone." Our correspondent could surely never have imagined we should insert his verbose communication; but that we may do him and his co-directors fair and ample justice, we will endeavour to put forth the main points embodied in his letter, and, at the same time, endeavour to set him right on one or two points, where he is evidently in a happy state of blissful ignorance. Our correspondent appears somewhat *stung* at what he terms our "wasp-ish attack," more especially as we are told that we inserted the advertisement of the company with a "special" paragraph, which will be found to be a mere reference to the advertisement itself. Glad as we are at all times to promote the success of any company, whose object is "to effect a great public good," but we are free to confess we had not read the prospectus with that especial care, which we were induced to give to it subsequently, and which will, we think, be apparent even to the most casual reader, by the introduction of the significant word "perhaps," which, doubtless, will be recognised by those mixed up with the Talacre affair, including its able engineer, who, if we mistake not, has lent his aid, on the present occasion, in the endeavour to establish the London, Liverpool, and Dublin Coal Consumers' Company. We have only to repeat, that the opinion we entertain, and ever have done, is that the Cost-book System applies only to the counties of Cornwall and Devon; and, although the late registrar of joint-stock companies held a different opinion, we feel well assured that the opinion of the Bench, if that the question came before them, would be strictly in accordance with that we have *ever* advanced. We are charged by our correspondent with having "perused a manuscript prospectus of a similar company, concocted by a party to whom the plan was mentioned in confidence." We can only say, that the prospectus itself formed the grounds of our opinion, and the *only* data which guided us in arriving at our conclusions, and which are fully confirmed by the opinion expressed in the letter of a valued correspondent, in another column. We are told that the directors are perfectly satisfied with their calculations, which have been ratified by the most respectable mining engineers and *accountants*. We recollect well that one of the most eminent mining engineers in the Talacre affair proved himself to be no accountant, or, rather, we ourselves proved the fact. We are next told that "the best coals" *can* be supplied at 14*s.* per ton, the only question being where? We fancy not in London, if the figures adduced by our correspondent, to which we have already referred, are to be taken as correct. We are further informed that the analysis of the coal may be inspected. We know that certain (said to be) Talacre coal imported into Dublin was found to have been obtained from Mr. Eyton's colliery adjacent, some two or three miles; but had our correspondent furnished us with the figures, we should most readily have put them forward. Meetings are to be held "strictly according to the Cost-Book System," while we defy the writer to lay down strictly its nature, and have again to repeat, that whatever it may be, it does not apply to collieries in North Wales. The information "that no money whatever is to be paid for the mines" is most satisfactory, or rather, would be so, if that the Honourable director would have condescended to inform us what is the royalty to be paid?—whether there are any dead rents?—what the directors' and *auditors'* salaries?—with some other little items which will, doubtless, occur to him as forming a part of the whole. We have only to say, in closing our remarks for the present, that an opportunity presented itself, within the past 24 hours, of communing with a party who, possibly, is the one referred to, but who was perfectly ignorant of the observations made by us until they appeared in type. He has procured some figures. These, with facts, will help us on another occasion, if we can find space to devote to the subject. We may observe, that having been favoured with the advertisement, such by no means secures our good word, while our honest expression is ever given "without favour or affection."

We are compelled to postpone our report of the Abney Park Cemetery Company's meeting; also many letters, and "Notices to Correspondents."

*** It is particularly requested that all communications may be addressed—
TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.
And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, JUNE 2, 1849.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

It is a source of much regret, while it is one of the first importance, to observe on the fall in the standard of copper, and the price of black tin—the metal market being, we are sorry to find, on the decline, which would appear to justify the depreciated price paid by the smelter, who, we well know, is not unwilling to avail himself of any excuse whereby he may reap his profit—the interests or position of the miner being one of secondary consideration. We believe that we are not far wrong, when we state that the fall in black tin is 10*l.* to 12*l.* per ton, or at the rate of 20 to 25 per cent. on its value—a decline of 3*l.* having taken place last week, in addition to those antecedent, and a further drop of 4*l.* this week. The effect will, we fear, be serious; but it is to be hoped that it is only momentary. The periodical sale of *Banca* tin may account for this in a great measure; and, so soon as the smelters and others have made their purchases at a low figure, it is to be hoped that the trade will recover itself. It is, however, hard upon the young adventurer, who possesses but little capital, and compelled to sell his ore, that he should thus minister to the profits of the smelter; while it is hardly necessary to say, those who can hold over their tin will doubtless benefit, although the delay may subject them to some slight inconvenience. Tin, however, is not the only metal which is deteriorated in value in the market; the standard of copper has fallen 10 per cent.; and when it is considered that one-tenth of the value of copper ore is taken off—or upon the returns of Cornwall and Devon, say 80,000*l.* a year—we can very well imagine what will be the direful effects on those mines which are either not paying dividends, or are merely meeting their cost. The annual produce of our mines of Cornwall and Devon we will take at 800,000*l.*; one-tenth, then, will be the sum we have named, and when, with certain exceptions, that we find they are not "passing rich," it may be very well imagined what the result must be, if a change does not take place.

On the present occasion we shall not take our ordinary course, that of charging the smelter with lowering the standard, so as to benefit himself at the cost of the miner; not but what he is quite equal to it, but we find there is a drop of 1*d.* per lb. on sheet copper, and, consequently, the stocks are depreciated full one-tenth in value. We do not profess to know anything of the profits of the smelters; however, one matter is, we believe, pretty clear—the reduction must affect, and that very considerably, the value of stock they may have on hand, which we are given to understand is very heavy; while the demand, arising, in a great measure, from the state of affairs on the continent, is but limited.

This reduction in price, if we take one house alone, that of Messrs. WILLIAMS, FORSTER, and Co., must be to them a loss of from 40,000*l.* to 50,000*l.*, assuming that the entirety of their stock, whether in metal or ore, was convertible into cash at present prices. If we are not mistaken, this house alone holds upwards of 6000 tons of copper in stock, which, if we assume as being worth some 500,000*l.*, it will be at once seen the loss to which this one firm alone is subjected. Does this arise from our free, imports of foreign and slave copper ore, or to what cause is it attributable? It is a highly important question as relates to a population of nearly half a million, and must not be disregarded.

At the present period, when our Legislators appear to be at a loss where to send those who for their crimes are deemed by our laws to be unworthy of abiding longer in this country, and our colonies objecting to become the recipients of these outcasts of society, we consider it our duty to suggest the adoption of measures, which we deem, if carried into effect, a vast portion of valuable labour may become available, and thereby a *creative* capital afforded from a source that would otherwise be attended with a positive loss. Our prisons are filled with able-bodied men, and the penitentiaries with juvenile convicts, whose subverted minds, and early neglected habits, may, by a well-directed system of discipline and instruction, be yet rendered useful to themselves, and the country whose laws they have violated. The intention of our criminal laws is not limited to the punishment for the offence; but that the punishment inflicted may have the tendency of preventing a repetition of the crime, or offence, for which the guilty suffer. If such be admitted, we consider that the offender should be precluded as much as possible from communicating with greater or less adepts in crime than himself; for experience has taught us, when opportunities are afforded by the absence of a constant and regular course of employment—so that the body and mind be kept in habitual exercise—reciprocal communications are made, and a greater degree of knowledge obtained, by which a criminal returns to society, after the term of imprisonment expires, better prepared for depredation than when he first entered within the walls of a gaol. To effect that great moral change to which our present efforts are aiming, as well as to institute the means by which convict labour may be rendered a source of benefit—nay, profit—to the Government, we consider that the Crown lands of the British empire, which at present are of little or no assistance to the country, can be made ultimately a medium of vast importance and wealth.

On submitting our views, we would draw attention first to the Duchy lands of Dartmoor, in the county of Devon. This great extent of moor land contains a large portion of land fully susceptible of cultivation and planting; whilst the whole district is well known to contain productive lodes of tin, copper, lead, and iron. We select Dartmoor for the scene of our first essay towards the accomplishment of the object—not from its general character of sterility of soil, but in consequence of the erection already of a place of confinement for the convicts, which would otherwise be deemed an obstacle to the furtherance of the suggested scheme, on the ground of immediate finances for a suitable building.

In 1806 the foundation of a prison was laid (which was completed at an expense of 127,000*l.*), as a place of confinement for prisoners during the late wars with France and other nations, capable of containing upwards of 10,000 persons, which, since the peace of 1814, has remained an uninhabited and "silent pile." If, therefore, this extensive place of refuge, occupying upwards of 30 acres of ground, be calculated for the confinement of prisoners of war, it cannot be less adapted for prisoners for crime. Moreover, it was intended at one time to occupy the prison with convicts, for the cultivation of the moor, and in 1820 there was a proposition made to establish a school of industry; the children were to be orphans rescued from the vice, infamy, and ruin of the metropolitan streets; and the present Lord BROUGHAM, at a public meeting stated, at the desire of his Majesty GEORGE IV., a donation of 1000*l.*, and the offer to grant a part of the waste towards that object. Taking it for granted that the *building* is calculated for the purpose, we will glance at the nature of the employment that would be allotted to the labourers, and the advantages that will result from the labour. Our chief argument asserts that a *creative* capital may be realised from the labour of convicts—that is, a self-supporting and profitable return from a channel that would otherwise become a positive loss, and bringing into a profitable or productive position that which remains dormant. In effecting this great desideratum, we would recommend that Dartmoor Prison shall become the establishment of a large portion of our convicts; and that they shall be employed in opening and developing the numerous metalliferous lodes of tin, copper, lead, &c., with which Dartmoor is known to abound. Without referring to ancient records, or going into statistical detail, we will merely refer to the historic tradition that the Phœnicians traded to Plymouth for the tin raised on Dartmoor, which may be deemed correct, that ancient mining was carried on there to a great extent, from the fact that the lodes can be traced for miles continuously, in accordance with the ancient mode of working on the backs of the lodes; and as a further corroboration of the existence of minerals, almost every mine that has been, and is being, worked to any depth proves a rich or productive mine.

It may be observed that every convicted person may not be made a good practical miner; but, in the various operations connected with mining, there is ample surface work necessary for both adults and children; and we have found labour for others in opening and working in the quarries of granite, which is of a very superior kind (in evidence of which we have only to point to Waterloo-bridge, and other metropolitan buildings), which the Government works requiring this article could be supplied therefrom. And, without reflecting on the opinions of others, we venture to propose a question by asking—How more national would the new British Houses of Parliament appear, if built of granite wrought from the Crown lands, by criminals who have broken the very laws made or amended within the walls raised by their labour?

And, again, another class should be employed in the cultivation of all the available, or such parts of the moor most capable of improvement, either by cropping until fit for permanent pasture, draining and enclosing, or by planting such forest trees that would thrive and stand the altitude of a Devonian moor. From experiments made by many local noble-minded patriots, we find that agriculture progresses, and that larch and fir will grow on Devon's green hills as on the mountains of Athol.

We cannot refrain from expressing our regret that so little encouragement is afforded to the mining interest by the Government. Now that this great interest of the British empire is become one of its most important pursuits, and adding so much to our national and commercial wealth, which is chiefly carried on by private enterprise, a stigma rests upon any Government that will exact from private speculation *one-tenth* of the produce raised by their capital and exertion, as enforced by the Commissioners of Woods and Forests from mineral grants of the Crown lands in Wales.

We have observed that the great object of punishment is to prevent a repetition of the offence. To effect this, we conceive that by rewarding every man in proportion to the labour performed, so that at the expiration of his term he would be in receipt of funds until he procured work, which the years of his punishment had in a measure inured him to, and we have no doubt but a discharged prisoner would return to society a better man; he would at least have the means of supporting himself for a time, without the excuse for returning to former resources, and his hands less adapted for *lighter work*. In other nations we find the convicts of the country employed in the Government works; but England has colonies which are of the highest importance to her commercial interests that they should be inhabited by a honourable, moral, loyal, and industrious class; but hitherto we have sent those convicted of the greatest crimes to assist in forming a new and rising community. Thousands in Great Britain, of truly meritorious character, would readily exchange positions with these outcasts of society but for "these bonds;" whilst the famine-stricken peasantry of Ireland, and the white slaves of the agricultural districts of England, are precluded from emigrating to the fertile soil and blue skies of our happy and prosperous colonies, the negroes of Africa are protected by a British fleet, and our convicted criminals sent to a "land of milk and honey."

It is to be regretted that a company like that of the MINERS' COMPANY, formed with the object as put forward, and which we believe most of the projectors had at heart, that of the protection of the interests of the miner—should have fallen from its high position, but which we think is well accounted for, from the want of principle on the part of those on whom the management devolved. In the first instance, the capitalist and miner were to join, so as to destroy the influence and power of the smelter, as being highly prejudicial to the one and other. But what is the result? The company coalesce with the smelters, and, in the end, the V.'s and W.'s, as practical men, laugh in their sleeve, and profit by the game. The case before us may be stated in a few words. Upwards of half a million has been advanced; 270,000*l.* is due to the Bank of England, and if we are to believe the representations made by Mr. Alderman CARDEN, the property is not worth 50,000*l.* We must say that we think the worthy alderman, albeit that he understands the value to be attached to matters in the Stock Exchange, is not quite so much *au fait* as regards smelting-works, whether as regards copper or iron; indeed, we never met with any gentleman who evinced so total a want of information. It is said that "a little knowledge is a dangerous thing," but in this instance we believe the worthy alderman possesses no knowledge of the subject, and hence it might be assumed he could do no damage. This, however, must not be taken for granted.

The position in which the company is placed is one of a peculiar nature, and we can well understand that cases may be drawn, opinions obtained, and decisions arrived at by a meeting of shareholders; while the real facts are, if not concealed, at least so misunderstood, or misrepresented, as to preclude that justice being acquired by the share or debenture holder to which he is justly entitled. We will, however, take the case under notice as it is. A company is formed to carry on copper smelting-works with other appliances, that of the manufacture of iron and tin-plates, and the *miner* is invited to join. Mr. VIGURS, Mr. TREVENEN JAMES, and others, sell the property, and become the managing directors of the company. Mr. ABEL LEWES GOWER, as governor of the Bank, becomes the chairman; Mr. WILLIAM REVELL VIGERS, and others, as largely interested in the working of mines in Cornwall, become directors of the new company—thus far all well. The company as one of the real objects, had they been able to have carried them out, advance money, say some 40,000*l.* or 50,000*l.*, on account of tin stuff, which they take to themselves, the advance made to the miner being some 60 to 70 per cent. on account of the real value. The time comes round when they must needs sell the tin so taken, and, accordingly, they adopt a principle established, having reference to tea, indigo, and other articles, of putting them up at quarterly sales, with the usual "prompt," &c.; advertisements appear, catalogues are issued, and the auctioneers are duly installed with power to sell the tin which had been accumulating during the preceding few months; while the stocks in the hands of the smelto-merchants were in a like ratio reduced. The important day arrives, 150 to 200 individuals, composed of smelters, merchants, traders, shareholders, and others, assemble. One lot is sold, and the sale is adjourned, in the absence of any bidders, for a fortnight or a month, it being clear that the smelters had well managed the affair. At the adjourned sale, the same result attended the assemblage of parties, who appeared to have attended from a feeling of curiosity, or to chuckle over the defeat of the company.

In the end a compromise was come to between the company and the smelters, the latter through a "middle man," as would be said in Ireland, taking the tin at a reduced rate, and thus giving the death blow to the smelto-miner, to the advantage of the smelto-merchant. From this moment we may date the ruin of the company—a coalition took place between the parties, they were allowed to come into "the ring," and while they amused themselves with making iron and debentures, smelting copper, and melting their *tin*, the gentlemen who so kindly let them into the "secret," were joccosely looking on, at the hapless manner in which the craft was managed, and anticipating the wreck which they well imagined must ensue. This has come about—the company as a body may be said to be bankrupt, while the Bank of England is willing to accept something like 9*s.* in 1*l.*, giving up the property on receiving 120,000*l.* out of 270,000*l.*, which is the full amount of their claim.

A report of the proceedings of the debenture holders appears in another column, and a further meeting will be held at an early period—that is, if that there is anything like unanimity; but we fear that the case is that of a "house divided against itself," and that the only result likely to be arrived at is, that of the adoption of Mr. Alderman CARDEN'S suggestion, which, we think, was certainly most business-like. Let the Bank take proceedings, let the company become subject to the bankrupt laws, have a regular wind-up, buy in the works—or, rather, let some independent parties purchase them, make terms for transfer of the charter, and begin *de novo*. This, we think, is sober advice; why should not the proposed new Smelting Company avail themselves of the opportunity of acquiring works, for a nominal consideration in one sense, and they will secure a zealous and active co-operation on the part of many of the debenture and shareholders? We merely throw this out as a hint.

We insert, in another column, a communication by a correspondent, containing an account of the last experiment of the electric light by Mr. STAITE. We give it in the original terms, because it comprises some particulars which could not be stated as the result of our own observation. However satisfied, as favouring this new source of artificial light, with the performance of Mr. STAITE on

Tuesday last, we cannot in candour assert, that the success of such experiments (not excepting that of M. Le Molt, on the 17th May, at the Surrey Gardens), in the way of resolving the great economic question at issue in the learned world, is anything but problematical. The light, on this occasion, was perceptibly more brilliant than at the display in Trafalgar-square; but, to our observation, it appeared more fluctuating or unsteady. Whether this impression was engendered by nicer criticism, aided by instruments appropriate for minute scrutiny, is hardly worth consideration; the most interesting point for discussion is simply, whether those popular experiments tend to the achievement of the desired object—a proof of the economy and capabilities of the incandescent pyrogen, for any and what purposes—for private or public application?

We were led to expect, from an announcement we noticed in a provincial journal, that this experiment would be made with a triple set of electrodes. However, we could discern but one distinct spark, the rays of which were thrown in different directions, from a parabolic reflector, aided by what appeared to be a looking-glass. The mechanism employed was apparently the same as formerly used, and it did not appear that Mr. Staite adopted any modification which would simplify the arrangements patented in January. What was the nature and power of the battery our correspondent seems to be in no position to announce, and Mr. Staite himself is still as reserved upon this all-important subject, as when Prof. Faraday put his question to the lecturer at the Hanover-square Rooms. We are, however, led to believe that the battery *is not* of the kind included in Mr. Staite's last patent. This would settle one point of the case for Mr. Staite—viz., the efficiency of perfluent batteries for the purpose, a consequence for which some of our readers may have been prepared by the lectures of Professor Bachhoffner.

The duration of the light on Tuesday night was not sufficient to prove anything. The time for commencing, according to the toll-keepers of the bridge, was nine o'clock, at about a quarter after ten o'clock, we think, the light was displayed, and continued for about three-quarters of an hour. It was turned up and down the river, to the Surrey side, and, principally, on Hungerford-market, where it shed a light far surpassing the brightest moonlight. Nevertheless, our feeling was rather one of disappointment at the unsteadiness of the light, and the mystery observed as to the details requisite to base any calculation regarding the utility of the invention.

Neither can we felicitate M. Le Molt upon the result of his experiment of the 17th May. The electric light in his hands seems indissolubly associated with a powerful optical system. He operates with a phantascope, or, as we popularly call it in this country, a magic lanthorn. Having, on that occasion, an opportunity for a nearer view than we could enjoy when M. Le Molt exhibited from the Duke of York's Column, we could plainly distinguish an unsteadiness, less constant than in Mr. Staite's lamp we will admit, but equally detrimental to the character of the electrodes, or the mechanism of both patentees. Now, therefore, we stand at present without any further contribution to our means of forming a judgment from any of the patentees on this side of the Straits. In Paris and other seats of learning, it is true we have M. Archereau, and many other ardent philosophers, assiduously labouring in this field of science. M. Archereau has made an application of the induced magnet, which comes nearer to our ideas of the probable means of utilising it as a self regulator of the electric incandescence, than any other which has been proposed. M. Le Molt's cannot be called a self-acting machine, because he does not pretend to leave it unattended; and, in fact, until we can get carbon discs to be consumed at a fixed rate, it would be absurd to count on Le Molt's machine. Of Staite's and Allman's we can only speak from theoretic deductions, until the patentees think proper to sell their wares, or till some adventurous wight, without the fear of the patent laws, shall brave the risk of litigation, and furnish some actual data on which to argue.

We do not, by these observations, deprecate the most nervous caution on the part of the patentees. Far preferable is that prudence which retires from public discussion, than the adventurous rashness which dares a condemnation by a premature controversy. Nevertheless, we shall be glad to witness those partial, though perhaps costly, applications of this light, such as at Her Majesty's Theatre and at the Surrey Gardens, at the illuminations at Paris (where, by-the-bye, the brilliancy was far greater from the distant height than any display here), or even on the Hungerford Suspension-bridge, if it be on the part of the directors to attract passengers. These will constitute the *premier pas*, which will lead to mature vigour. What we do object to we have before stated. It is the putting forth of experiments, as proving the cheapness of the light, calling it next to nothing per hour, concealing the computations, and calling that cheap which all scientific experience pronounces to be with the present appliances dear. As any speculative motives may be offensive, we shall abstain from all such animadversions; suffice it to say, that we shall not abandon for a moment that jealous watchfulness so necessary to protect the public against any pretensions, which may not be justified by the most satisfactory analysis of the allegations upon which the suffrage of shareholders may be sought.

It is not probable that Mr. Staite will accept M. Le Molt's challenge in our last Number. This, however, evinces a certain confidence on the part of our courteous correspondent, which deserves a worthy antagonist in the scientific tournament he points to as the test of merit. If Mr. Staite be not disposed to risk an encounter, is Mr. Allman nowhere to be found, or any of the several other inventors, whose specifications encumber the records of the Enrolment Office, solely for the pecuniary benefit of officials, and for the mystification of the future aspirant in electro-galvanism?

Here are not only those interested in electric light concerned, but also the manipulators, whose batteries are applicable to *other purposes*; for the dispute must ultimately turn upon the power, duration, and economy of the battery—here must we look for the true key of the position we seek to carry; and on this subject we beg to offer a hint that, if our *savans* do not expedite their movements, it is possible a new competitor, sent to us by brother Jonathan, may carry off the prize. Such is the tenor of recent trans-Atlantic advices.

The letter of a correspondent, on the subject of "stamps being requisite on the transfer of shares in mine adventures," which appeared last week, we allowed at the moment to pass by unnoticed, having little to observe beyond the remarks in the Journal immediately preceding; but, as it would appear, a certain purser in the west, with our correspondent, "W. H. G.," feel some alarm on the subject, and as such may possibly be increased, and the atom of snow by rolling may become a ball or mass, which may not be so easily dissolved or removed as if taken in its earlier stages, we resume the subject with the view, in furtherance of the remarks already made, to show the absurdity of the opinions advanced by our correspondent; and the objections raised by those who, now in authority, never doubted the matter before, when that as miner, agent, or adventurer, they transferred their shares, and benefitted by a *sturt* underground, or a *start* at surface.

Let us just coolly take the matter as it stands, and although we think it were wise not to raise the question, or to direct attention to a subject which may in the end only create disunion, without benefitting any one party, except the lawyers—and, goodness knows, we would most certainly use our utmost endeavours to exempt them from any monies, arising either from the produce of the mines or the pockets of adventurers—yet it is well at once to remove the alarm which might exist on the part of those unacquainted, or partially so, with the Cost-book System as to the liabilities, and, we should add, penalties which they would incur, if that our correspondent be correct. We are told that the question is "a legal one;"—undoubtedly, all questions are legal, and must be so construed; but we would observe that, while there are laws, there are also customs which become laws, and hence the principle observed under the Cost-book System is "a legal one." "W. H. G." proposes a test for solving the value, or otherwise of the present course pursued; and, as a correspondent in our Journal of to-day observes, it is to assumed that he is no adventurer, and possibly "W. H. G." will raise the question, and render through our columns the result, so as to be a guide to adventurers in mines; for most surely he could not write on a subject as he has done, without being most anxious to protect the mine adventurer—at least, we should hope so, whatever our own private opinion may be on the subject.

We may, however, say one word on the point raised—viz.: that the transfer could not be received in the superior courts without being stamped as an agreement. Now, being unlearned in the law, and with the Stamp Acts, we assume two positions. The one is, that if mining shares be subjected to stamps in the same manner as other property, then that the consideration money must be introduced, and the stamp paid for accordingly. In the next place, that the stamp, as an *agreement*, contemplated by our correspondent, cannot be effective, inasmuch that the consideration money in such case would not be inserted; and again, the agreement stamp, if we remember rightly, is 30s., which would be rather a heavy charge upon the transfer of five shares, at 15s. or 20s. per share, even were such available. We will, however, proceed with the letter under notice, and regret that we did not at once answer "W. H. G." on its insertion, who would lead us to suppose "that a transfer of mining shares does not come within the exception in the Stamp Act of 55th George III., cap. 184, as of, or relating to, the sale of goods, wares, or merchandise," our learned correspondent forgetting at the moment that the mine adventurer is perfectly careless as to what may, or what may not, be the construction put upon the clauses of the Act cited, indeed, the usage and custom, and as such acknowledged and admitted in the case of working of mines under the Cost-book System, renders him perfectly independent of any Act passed subsequent to the introduction of such system. We are well pleased that this matter has been mooted, because it involves the question which has been raised by our correspondent, who, to quote his own words, says—"If any of your correspondents can refer to a reported case where it has been decided that an unstamped transfer was properly receivable in evidence, he would dispose of the question." This is really an important point, and if we are right in our assumption—then is the Baron of the Exchequer wrong, while in adverting to the case, we may in some degree enlighten our correspondent, and give him scope for further remark in our next week's Number, being at all times ready and anxious to meet parties where a difference of opinion exists, with "a fair field, and no favour."

In the case of Fox and others, *v.* Wyld, in the Court of Exchequer, the cost-book was put in as evidence, and received by the learned baron; the leaf having the defendant's signature was, we believe, stamped as an agreement stamp, or some such way as was, at least, considered sufficient by the court. But, it must be remembered, that this was an instance of a party signing the cost-book as an original shareholder or adventurer, where no consideration money was given; but were the case that of a transfer of shares, we think the learned judge would not have allowed the cost-book to have been received in evidence. We now come to the beauty, as we consider it, of the Cost-book System itself. There is a Stannaries Court, to which, in all cases, appeal can be made; it is one of law and equity, it is cheap in its cost, it is quick in its action, it is the safeguard of the lord, the adventurer, and the working miner. All there are alike. Let it, however, be understood the laws of the Stannaries are confined to Cornwall and Devon; and the deceptive humbug (for we can use no other term) practised with companies formed for working mines in Brazil, slate quarries and collieries in Wales, which are put forward as being governed by such system, to lead astray the public, will only be discovered and duly *appreciated* when the bubble bursts. We have for this week done with the subject; but, in our next Journal, we shall enter into a full examination of the question, introducing reference to a number of legal decisions bearing thereon.

IRON, HARDWARE, & METAL TRADES' PENSION SOCIETY.

A general meeting of this society was held at the London Tavern, on Monday, the 28th May, for the election of six additional pensioners, and other business,—the proceedings of which will be found in our advertising columns.

T. B. Simpson, Esq. (vice-president and treasurer), in the chair,

The Hon. Secretary, in moving the first resolution, remarked that, in having to propose only one gentleman on that occasion, as a vice-president, the present meeting contrasted unfavourably with that in May, 1848. After the anniversary festival of that year, presided over by the late Lord Mayor, the society had the honour of electing no less than eight gentlemen to that distinction, in virtue of donations of not less than 20 guineas each. How far the difference in this respect was attributable to the untoward circumstance which deprived the society of the promised presidency and advocacy of the present Lord Mayor, it was not easy to affirm with precision; but the talent and generosity convinced by his lordship in presiding over the anniversaries of many other kindred institutions, and the influence of his eloquence and liberality on similar occasions, might convince every one that, had his lordship not been prevented by circumstances he could not control from fulfilling his engagement to the society, his advocacy of the claims of this society would have been extremely beneficial to its funds. Notwithstanding this great disappointment, however, he considered there was cause for congratulation in the increase of its members within the current year. The appendix to the report, now preparing for the press, would contain more than 200 names of new subscribers, or donors; and the growing zeal of the friends of the institution afforded well-grounded hopes that the present year, amidst all the discouragements arising from the continued depression of trade, will compare very favourably at its close with any previous year of the society's existence.

Mr. H. L. Taylor, in seconding the resolution, after expressing his satisfaction at the progress of the society, informed the meeting that he had recently had an interview with the Lord Mayor, who had authorised him to say that he had not forgotten the society, nor would he permit it to suffer beyond what was inevitable, and that his lordship's intended donation of ten guineas should be forwarded to the hon. secretary.

An one o'clock the meeting proceeded to the election, which, however, was not terminated till six o'clock, when the chairman (Mr. H. L. Taylor) declared George Allan, of Darlington and Norton Folgate; George Paul, of Bury St. Edmonds; John Line, of Birmingham; Robert Frost, of Plymouth; Sarah Littlewood, of Sheffield; and Ann Robinson, of London, elected to pensions of 20 guineas per annum, these additions rendering the number of annuitants 25.

After thanks to the scrutineers for their laborious exertions, a well-merited tribute was paid by Messrs. B. Fowler and Constable to the hon. collector, on his retirement from office; and by Mr. W. S. Burton and Mr. Holmes to the Hon. Secretary, who, in reply, expressed his high gratification at the favourable notice taken of his humble efforts on behalf of the society—at the same time stating, that highly as he appreciated the approbation of the society, his gratification would be greatly enhanced, if whatever in his conduct was deemed deserving of praise should be also thought worthy of emulation. Could he hope to be sustained by the personal exertions of all, as he had been encouraged and stimulated by the exertions of some then present, he should not despair of seeing this society first in rank, in wealth, and in active benevolence, among the various charities of our highly-favoured country. To sustain the operations of the society on their present scale, the best exertions of all its friends, as well as his own, were required; and he hoped that they would be put forth with such vigour and success, that at the end of July, when the committee would have to determine how many additional pensions should be granted in November, there might be no doubt as to the safety of such another election as the present.—[We understand that 100 additional subscribers before the 1st of August will be deemed sufficient for this purpose, and the society has our heartiest wishes that many more than this number (which, if each member did his best to secure one, could be easy of attainment) will come forward in aid of this really excellent institution, and prevent any pause, or retrogression, in its benevolent career.]

IMPIOUS PRACTICES OF THE LATTER-DAY SAINTS.

An inquest was held at the Black Lion Inn, Aberdare, on the body of John Pugh, collier, also a preacher in connection with the Latter-day Saints. In the late explosion at the Wyrfa Colliery, the deceased was much burnt, but persisted in refusing surgical aid, alleging that his "faith" was sufficient. The following is an outline of the proceedings:—George Rosser proved, that on the day the explosion occurred, he and the deceased were in the Wyrfa Colliery; and in his absence deceased went with a naked lighted candle into the part where he had been told not to go. Immediately an explosion took place. He and deceased were much burnt. Deceased was subsequently seen by witness, but positively refused to have a surgeon's services, preferring the aid of one James Jones, alias "Jim Pontypool."—Eleanor Pugh, widow of deceased, said that James Jones dressed his burns daily. Mr. Evans, surgeon, offered his services; but deceased declined them, saying that if his faith should prove too weak to enable him to be cured, then he would call in Mr. Evans. He was then quite sane. On a subsequent occasion Mr. Evans declined giving witness any oil for her husband's burns, unless she would discard all the "saints." Mr. Sims, an elder, administered the ordinances of the "church" to deceased as soon as he was brought home after sustaining the injury. A flask of the "blessed oil" was brought—a shilling's worth—with which deceased was anointed; after which Mr. Sims placed his hands on deceased, and prayed. "If my husband's faith had been strong enough (said witness) he would have been cured instantly."—Jas. Jones, alias "Jim Pontypool," was called. He informed the court that he was a "saint!" According to the saint's creed, their members should rely on the ordinances of the "church" for cure in all cases. Had it not been for the weakness of deceased's faith he would have been cured immediately!—William Sims, a "saint" and an "elder," attributed deceased's death to "want of faith." Witness then added—"I most solemnly declare that if all the flesh was burnt off my hand this moment, that my blessings would cure it at once! ! ! Had John Pugh's faith been good, I would have cured him."—Mr. Evans, surgeon, proved that his services were declined—deceased preferred relying on the ordinances of the church. Deceased might have recovered if the proper remedies had been applied to his wounds.—The jury returned the following verdict: "That John Pugh died from the effects of an explosion of fire-damp at Wyrfa Colliery, May 8th, and the culpable neglect of his attendants, who were members of a certain society, called the 'Latter day Saints,' in refusing to permit a medical gentleman to attend to his cure." The jurors, in the strongest language, censured the conduct of these deluded people, and cautioned them not to repeat their foolish practices.—The coroner said that the verdict was a very merciful one. He fully expected to have had to commit several of them for manslaughter.

Large Wheel.—On Sunday an immense wheel, 18 feet in diameter, and weighing about 10 tons, was conveyed from Manchester to Liverpool along the Manchester and Liverpool line of railway. The wheel is to be used at the Victoria Tunnel, Edgehill, Liverpool. This ponderous piece of mechanism was obliged to be conveyed on Sunday, as it could only be taken when all other traffic was stopped, its great width necessitating the use of the two lines of railway.—*Manchester Courier.*

THE NEW SPANISH TARIFF.

It is with great pleasure we have to announce that the long looked-for new Spanish tariff, which has been completely revised, passed through the Cortes without dissent on the 19th May, and received the Queen's signature on the 20th at the Royal Palace of Aranjeuz, countersigned by the Ministers of Finance and Commerce. The prohibitory duties which have so long existed in Spain against the introduction of foreign machinery, have had the most baneful effects in preventing the development of her mineral resources and mining enterprise by British and other adventurers. Railways would have been for some time established from Madrid to Pampelona, Vittoria, Corunna, Vigo, and San Sebastian in the north, Cadiz, Seville, Malaga, Valencia, and Barcelona in the south, running through the principal mineral, as well as manufacturing, provinces—thereby affording the greatest facilities to mining speculations, and the general industry of the country, had it not been for the exclusive tariff duties on foreign locomotives, rails, sleepers, and all the requisite *materiel*. We are glad to see that the Government has at last come to the determination of causing a new era in the scientific, as well as commercial, advancement of a country which offers so many resources to national enterprise and that of foreigners; but which, in consequence of years of political troubles and oppressive laws, has fallen, or degenerated, so as hardly to be classed among the free nations of Europe. Spain, once so powerful, possessing as she did the vast riches of Mexico, California, Peru, Chili, and nearly the whole of the New World, from the Gulf of Mexico in the Atlantic to the Pacific and Cape Horn, the Amazon River, and the Plata, has now to depend upon her own industry and energy, having lost all her trans-Atlantic colonies, with the exception of the island of Cuba, and the Havanas, Manilla, &c.; and that can only be done by having a liberal commercial intercourse with Great Britain and other countries. The following are the most important alterations in the tariff to our ironmasters, coal proprietors, and machine engineers, or constructors of locomotive apparatus, &c. The law enacts that primitive materials and machinery of every description shall pay a duty of 1 to 10 per cent. on their real value; but not to exceed the maximum. This includes locomotives, steam-engines, and machinery for manufacturing purposes, mining works, vessels, &c. The general duty shall be from 15 to 20 per cent. on all materials that may be required for whatever purposes, and not more. The protective duty on national productions shall be from 25 to 50 per cent., according to circumstances; this includes manufactures of various descriptions, cutlery, and other articles, which hitherto have been entirely prohibited.

The following special articles remain prohibited:—Fire-arms, pistols, muskets, &c.; projectiles and war materials, including gunpowder, balls, and destructive implements; common salt, and impure or rough saltpetre (the above are monopolised by Government); gold, silver, and platina, and jewellery, or trinkets, in either of those metals; quicksilver and silver are adapted for amalgamation; cinabar (sulphuret of mercury); vessels, whether steam (and in iron) or sailing, in wood of foreign construction, and of less than 350 tons burthen (of 20 Spanish quintals each), are excluded. It is to encourage the shipping interest of Spain, which has much fallen off, as the greater portion of the small trading vessels are constructed by Portuguese, French, Sardinians, Sicilians, and Neapolitans, instead of being built in the country, rich as it is in oak and other woods. With respect to the exportations, the Government is desirous of having nearly all the mineral ores smelted and prepared in the districts they may be extracted from, every facility being afforded for that purpose, by the admission of foreign machinery at a low duty, coal, &c., and, consequently, that produce will be under certain restrictions, but not so as to prevent mining enterprise, or throw any obstacles to adventurers who may obtain concessions, and reside or settle in the country, the great object of the Queen and her Ministers being to develope, as much as possible, the real resources of the State, especially mines. The following are the principal ones belonging to the Crown:—The quicksilver mines of Almaden, the copper mines of Rio Tinto, the lead mines of Linhares and Falset, the calamine mines of San Juan de Alcaraz, the sulphur mines of Hellin and Benamaurel, the iron mines of the Asturias and Navarre, besides many others rich in ores. To carry out the benefits of this law, custom-houses and depôts are to be established by Government on the frontiers, and also the erecting of general depôts for foreign and colonial articles, to be kept in bond either till entered for home use, or to be re-exported. This is a desideratum which has been long wanted. To our manufacturers of Manchester, Leeds, Birmingham, Glasgow, Paisley, and other districts, celebrated for cotton and woollen goods, the revision of the tariff will be of the greatest importance, as British manufactures had been prohibited, and were chiefly smuggled by way of Gibraltar and Portugal, but now they are to be admitted on a regular scale of duty, varying from 15 to 30 per cent. By another decree, schools of engineers and mines are to be established, for the forming of practical and scientific young men in those important branches. Normal schools, for general instruction in mechanical businesses, manufactures, and agricultural pursuits, are also to be established by the Government, at the expense of the State. [We shall again refer to this subject when the whole of the detailed articles are enumerated and printed by the Spanish authorities, the above being at present only the *resumé*.]

Contract for Coals.—The deliveries of coal for the use of Government steamers in the Mediterranean during the present month will be very large. A portion of the contract entered into on the 22d April, for 1200 tons—2000 at Gibraltar and 1000 at Malta—are to be delivered in the course of the next forty-night, and the remainder by equal portions in July and August. Also those for supplying Her Majesty's dockyards, Admiralty, Marine offices, &c.

Ordnance Department.—Persons desirous of contracting with the Ordnance to furnish, from 1st July to 30th June, 1850, the barrack and ordnance stations in Great Britain and the Channel Islands with coals, must send in their tenders by Wednesday, the 6th inst.—952 tons of Pontop coals, to be delivered at Gibralter, for the Ordnance—viz., one-third by the 30 inst., one-third by by the 31st July, and the remainder by the 31st August.

British Coals for the French Post-Office Steamers.—The following quantities of English coal for the use of the French post-office steamers are to be delivered at the undermentioned packet stations during the month:—Calais, 250,000 kilos.; Marseilles, 1,400,000; Ajaccio, 150,000; Bastia, 150,000; Malta, 1,400,000; Constantinople, 300,000; and Alexyndria, in Egypt, 600,000—total, 4,250,000 kilos. The above deliveries will give some business to British ship-owners in the colliery trade.

Contract for Mineral Black Lead.—The Board of Admiralty have given notice, that on the 12th inst. they will contract for supplying Her Majesty's dockyards with mineral black for paint. A sample of the article, and form of tender may be seen at the office, Somerset-house. The quantity required is rather considerable, and is an important contract.

Modum Cobalt-Works.—We have been informed that a company is now forming, in Christiania, to purchase these mines, advertised for sale on the 20th of June. It is supposed that they will embark in the undertaking under the auspices of the Norwegian Government. We are not aware of the amount of capital to be subscribed, but we hear that the shareholders are inclined to bid as much as $100,000, if the works are not sold at a lower figure.

Beaufort Iron-Works.—The following resolution was unanimously agreed to at a public open-air meeting of the workmen of Beaufort, Monmouthshire:—"We, the miners, colliers, and workmen in general, tender to H. Bailey, Esq., proprietor of Beaufort Iron-Works, our warmest and unequivocal thanks for the spirit of sympathy he has so laudibly displayed in giving us an advance of 2s. in 1l., in this the time of the working man's distress, and that when other ironmasters have refrained from so doing; and we pray him to continue thus to sympathise, and we will endeavour to act towards him so as to give general satisfaction."

Burry Port Copper Works, Carmarthenshire.—The proprietors of these works, Messrs. Mason and Elkington, electro-plate manufacturers, of Birmingham, have commenced erecting their buildings, and it may be expected, from the expeditious manner in which they are proceeding, they will be able to commence smelting copper, on a new principle, for which they have a patent, in the short space of six months. There are upwards of 100 men employed on the works.—*Swansea Herald.*

Nail-Making.—Mr. Moses Poole has obtained a patent for some improvements in machinery for making nails. The metal is passed between the edges of a top and bottom roller, to split it into rods of the requisite thickness, which are then passed between the edge of a second top roller and the other edge of the bottom roller, whereby they are formed into a succession of rectangular triangles. These triangular-shaped rods are then forced between a pair or vertical or horizontal matrices, to point them, and likewise a pair of cutters to separate them, and subsequently through a punching machine, by which the head are formed. *Claims.*—The mode of arranging machinery for making nail-rods, by first splitting the metal, and then shaping it. Making nails by means of the matrices in combination with the heading machine. The application of the machine last described.

Poupard's Weighing Machines.—These machines, which are an improvement on the weighing machines at present generally used, are particularly neat, durable, and accurate—one of which, we understand, has weighed the amount of 30,800 tons without requiring any repairs, and is still in daily use. There are two descriptions, the imperial and the dwarf standards; the advantage in the imperial is having an upright brass or mahogany pillar, with standard working in it. By the removal of two small weights on the index, the required weight is immediately given, while, at the same time, the height may be taken. The dwarf machine is of a tenth power, and equally durable; some of them, we believe, are in use at the Hospital for Consumption and the Duke of York's School, &c. They are, we believe, invented with a view to their adoption by insurance companies and public establishments. Several eminent members of the medical profession have reported favourably on their merits.

On Gold, and Gold Mines.

BY WILLIAM BIRKMYRE.

No. I.—GENERAL DESCRIPTION OF GOLD.

This metal has been known from the earliest times, and, in consequence of its many valuable properties, has been held by the rudest, and by the most polished ages, in the highest estimation. It is the only *metal* of a yellow colour. There are, however, alloys of copper, and also some minerals—copper pyrites, iron pyrites, and yellow mica—which resemble gold in colour; but their presence at all times is easily detected by chemical tests.

The most prominent of the valuable properties which gold possesses are —1. It is not tarnished by the action of air, coal-gas, water, or the common acids, being far superior in this respect to silver, which soon tarnishes either by the sulphuretted hydrogen existing in the air, or in that of unburnt coal-gas, and also by the sulphuric acid of its combustion; hence gold or gilt plate wears much longer than silver or silvered plate—a consequence of gold or gilt plate not requiring a tithe of the polishing which silver demands.—2. It exceeds all other bodies in malleability; an ounce troy, which should contain 6 grs. of alloy of copper or silver, is daily converted by the goldbeaters into 1000 leaves, or 40 books of 25 leaves, each being 11 square inches; besides obtaining the above quantity of perfect leaves, there are usually about half-an-ounce of cuttings. It has been ascertained that gold can be beaten to the $\frac{1}{282000}$th of an inch in thickness, 1 grain being, therefore, extended to 100 square inches; it is then so thin as to be transparent to the eye, yielding to it a green colour, which is also true when gold forms a thin coating on glass on being precipitated from some of its solutions.—3. Its *ductility* is such that one grain can be drawn to 500 feet, so that its diameter is only $\frac{1}{2\frac{1}{2}\frac{1}{2}}$th of an inch, which is sufficiently small for astronomical purposes; but most of the so-called gold wire is merely silver gilt, and, when used for lace and embroidery, is seldom finer than the $\frac{1}{100}$th of an inch in thickness.—4. It excels all other bodies *in conducting heat*; for if gold be estimated at 100, iron is but 37, lead only 18, and porcelain 1.

The above-described properties of gold, joined to its scarcity in the dark ages, were the chief causes which stimulated a class of persons, known as alchemists, in fruitless attempts to discover what they termed the *philosopher's stone*, or the *elixir*, a substance to their minds sufficient to transmute the commoner metals, or, as they called them, the baser metals, into gold; but the notion almost ceased to be entertained towards the end of the seventeenth century, principally in consequence of the growing intelligence of the people, and also by reason of the great fall in the price of the precious metals, by the discovery of America in 1492. No chemist has been able to prove that this metal is a compound; hence it is universally admitted by them to be one of the 54 elementary bodies in nature.

Gold is found in greatest quantity among the sands of rivers, many of which have been famous in all ages for their golden sands; but none more than the Pactolus, in Asia Minor, from whose bed a considerable portion of the wealth of Crœsus was obtained. Much gold is now procured from mines in primitive rocks, especially in Hungary and Brazil. When it occurs in sand the greater portion of this metal is separated simply by washing, without recourse to mercury; but if mined, a great part of the *gold ore* that is raised at the present day is pulverized by stamps driven by water, then treated with mercury in revolving mills, the amalgam being afterwards washed and submitted to heat, by which the mercury is volatilized and condensed in a separate vessel, and in the best conducted establishments with a loss only of one-fourth of the mercury originally employed. The gold now remains freed of the mercury, but usually containing some silver, and occasionally palladium, these three metals being soluble in the quicksilver. There is but a trifling loss of mercury in the extraction of gold compared with that of silver; since the loss hitherto of mercury in the extraction of the latter metal, even in the best conducted amalgamation-works, is four times as great, being due principally to chemical action—the silver ores being generally compounds of sulphur and chlorine, while those of gold are almost invariably alloys, and hence with them the loss is chiefly mechanical.

In the native state gold is never found oxidated, or combined with sulphur, like silver, copper, and iron, and, consequently, wherever found, it has always a metallic lustre; it rarely occurs absolutely pure, and is, therefore, generally found as an alloy. The purest specimens have been discovered in local detritus, or gold sand, but even there it is often very impure. Some specimens obtained from sand, and from mines 400 or 500 feet deep, are so unlike gold as to possess a black colour (the *auro preto* of the Portuguese), these contain but 9 per cent. of gold united with other metals, principally tellurium; other specimens are of a white colour (*ouro branco* of the Portuguese), and contain about 30 per cent. of gold, combined with silver and palladium.

The metals found most frequently in native gold are silver, copper, and palladium. Gold is generally found in dust, grains, or flakes; sometimes in crystals, more or less perfect. It is now obtained in greatest quantity in Russia and in Upper California; the former country last year probably produced 4,100,000*l.*, and the latter about half a million sterling; but as the discovery was only made in California the same year, the produce this year is likely to be vastly augmented. Of late years, great masses of gold have been found and recorded in different countries. One of the largest was discovered only 9 ft. beneath the surface of the ground, in the Ural Mountains of Russia, on the 7th Nov., 1842; this mass weighed 96½ lbs. troy, and was, therefore, supposing it to contain 8·33 per cent. of alloy, which is the amount in our gold coin, of the value of 4508*l.* 19s. The next largest on record weighed 37 lbs. troy, and was picked up in Haiti, in 1502. A mass was found in 1821 in the United States, which weighed 33 lbs. Another prill, weighing 27 lbs., was picked up at Miask, in the Ural Mountains, where, in fact, many pieces have been discovered, which weighed from 10 lbs. to 17 lbs.; nor have the English gold mining associations been unsuccessful in this way. The Imperial Brazilian Association discovered, in 1832, at their mine, the Gongo Soco, a lump, which weighed 21 lbs. troy. The greatest specific gravity of a specimen of native gold is 19·099, which contained only 1·48 per cent. of impurity, consisting of silver, copper, and iron; it was brought from near Ekaterinburg, in the Government of Perm, in Siberia. Gold in the native state, and possessing nearly its yellow colour, may be of any specific gravity between 12·666, the lowest yet observed, and 19·3 the highest, which is that of pure gold when simply melted. It is well known to be, after platinum, the heaviest body in nature; the specific gravity, 19·3, and yellow colour are almost sufficient evidence of the purity of any specimen of gold. The above specific gravity of 12·666 clearly indicates that the native specimens must be contaminated with a large quantity of copper; for a mixture of equal parts by weight of silver and gold electrum has a greater specific gravity, and is nearly as white as tin. Many specimens of native gold, but, of course, very impure, have been found as low as 5·7. These possess a white colour, and contain only 30 per cent. of gold, united with 60 of tellurium and 10 of silver; they are generally found in Transylvania.

The *lustre* of gold is inferior to steel, silver, and mercury; its *tenacity* is less than iron, copper, platinum, and silver, as, in comparison, it has but one-third the tenacity of iron, and one-half of that of copper; or a wire of gold of ·078 inch in diameter, will support but 150·07 lbs. avoirdupois, without breaking.

The salts of this metal are fully as poisonous as the same compounds of silver.

Pure gold is soft, and not much harder than lead; so that coins made of it wear a great deal faster than when alloyed with copper or silver—hence the utility of these metals in coin.

The gold coins of France and the United States now contain 10 per cent. of alloy; while those of this country, since 1604, only contain 8·33 per cent. The relative value to silver at present in *this country* is as 15·98 to 1; but owing to recent great discoveries, and also to political causes in the east of Europe, it is likely to fall greatly in value. The malleability and ductility of this metal are much impaired by antimony, lead, bismuth, and arsenic. Thus both properties are almost completely destroyed when gold is alloyed with $\frac{1}{1000}$th part of its weight of antimony. When silver or copper are alloyed with gold, the alloy is lighter than the mean specific gravity; hence, unless Archimedes was aware of this fact, he must have taxed the goldsmith who made Hiero's crown with greater fraud than he perpetrated upon the King of Syracuse. There can be no doubt that when gold becomes more abundant very important improvements will be introduced into the arts, more particularly in all that relates to alloys, our knowledge of which being singularly defective.

Gold and copper melt at nearly the same heat; both are fused at 1102·2° Centigrade, or 2016° of Fahrenheit's thermometer; while silver melts at 143° less of Fahrenheit.

The best solvents of gold are—mercury, and a mixture of nitric and muriatic acids, *aqua regia*. The former yields a product termed an *amalgam*, which, on being passed through leather, to free it of excess of mercury, leaves a white mortary-looking substance, containing 33·3 per cent. of gold and 66·6 per cent. of mercury. But the usual solvent of chemists is the *aqua regia*; the active ingredients of this compound acid are chlorine and a gas lately discovered by Dr. E. Davy, and called by him the chloro-nitrous. From numerous experiments of my own regarding this compound acid, I am led to believe that the chloro-nitrous gas, as well as chlorine, dissolves gold.

I find that chlorine combines with gold at a high as well as at a low temperature, so that the proposition made in 1841, and published in the *Transactions of the Society of Arts*, to assay alloys of gold by passing a current of chlorine gas over the gold alloy at a red heat, on the supposition that chlorine would only combine with the other metals at that heat, is not founded on accurate data. I found, on repeated experiments, that pure gold itself lost 4 per cent. of its weight on passing a current of chlorine over it, at a red heat, a loss much too great in such a simple matter as an assay of gold. It has, indeed, been long suspected by chemists that a portion of gold is volatilized as chloride, when its chloride is submitted to heat; the result of the experiments just related go far to confirm the fact. Bromine and fluorine act readily upon gold. Though by far the greater part of the gold consumed in the arts, still retains its characteristic yellow colour, unlike copper and zinc in this respect, yet a rapidly increasing quantity of gold is used in the art of colouring glass, in which its colour is changed to a deep red. As "purple of Cassius" (oxide of gold and oxide of tin) it has been used in this way, for about 200 years, but of late it has been discovered that the simple solution of the metal in *aqua regia* equally imparts to glass the superb ruby colour.

The combining equivalent is 199·2, and the symbol used by modern chemists to prevent circumlocution, *au* from the Latin *aurum*. The alchemists used to designate it *Sol*, and also by ⊙

[*To be continued in next week's Journal.*]

ON PYROGEN.—No. VII.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSPORT.

At the conclusion of my last paper, I made the remark that "it might be assumed that ozone is a substance that retains pyrogen about it, like impure iron, nickel, and cobalt;" I would here beg to state, that I do not consider such to be the case, but that it forms a part of its substance.

I will now attempt briefly to illustrate the nature of magnetic iron, nickel, and cobalt in my theory. Pure iron, nickel, and cobalt cannot be rendered permanently magnetic any more than copper; it is only when they are mixed with other substances that they acquire this property. Thus loadstone, the black or magnetic oxide of iron, is magnetic. Steel also, or iron with carbon, may become magnetic; the greatest difficulty being to keep them free from the acquisition of magnetic properties. Iron not containing carbon, but mixed with manganese and sulphur, may also become magnetic; but neither oxygen, carbon, manganese, or sulphur, any more than pure iron, nickel, and cobalt, acquire magnetism in an isolated and undisturbed state. The natural conclusion to which this leads us is, that although pyrogen has no particular attraction for these substances in a separate state, yet it has a strong attraction for some of their compounds, and it is probable that it is not merely retained in these compounds by attraction on a principle analogous to the water of crystallization of salts, or hydrates, but that it actually enters into the formation of some; for instance, the magnetic oxide of iron. It would seem, as regards ordinary or impure iron, that the fluid is attached to it in the former way, or in a manner analogous to a solution, for it is only after a lapse of some time of exposure to a magnet that steel developes magnetic properties; but then it retains it more tenaciously than other iron. This would seem to arise from its closer texture, on account of which pyrogen finds greater difficulty, both in obtaining ingress to, and egress from, its pores. This view of the subject is confirmed by the fact that the peculiar properties of a magnet may be destroyed by hammering, or falls—a result that is much accelerated by administering the blows to it so as to produce a ringing sound. Nitric acid affords a remarkable parallel case in respect to water. Nitrogen and oxygen in an uncombined state, as atmospheric air, have no marked attraction for water. But when they combine to form nitric acid, their existence in this form is altogether dependant upon water, nitric acid in a separate state being a hypothetical substance. So tenacious is this hydrate of its proper proportion of water, that very strong acid has little power to attack metals until some water is added. In like manner, the above-mentioned metals and other substances have no attraction for pyrogen in an uncombined state; but when combined they attract it very strongly, and by absorbing it become (if I may be allowed to form a word on the analogy of *hydrate*), *pyrites* of iron, nickel, and cobalt—a condition indicated by their magnetic properties.

Iron in this state has been found to possess a peculiar chemical property—viz.: that of retarding the process of oxidation—a fact first observed, I believe, on railroads, the rails in use being found to corrode more slowly than others equally exposed to the weather. This preservation from corrosion has been attributed to the magnetism which all rails of the kind that are laid down more or less acquire. The following is a very simple explanation of the cause of this:—The magnetic properties denote the presence of currents of fluid revolving about the rails, which prevents the approach of extraneous fluid by the property of repulsion existing between its particles, already illustrated in these papers; and on Mr. Gann's and my theory of ozone, detailed in the last paper on this subject, the peculiar state necessary to oxidation is rendered very weak, if not altogether destroyed, on account of the extraneous fluid being hindered from approaching the iron. An instance of this lately came under my own observation. I had left a magnet and an iron tool near each other in a damp room; a short time after I observed that there was a coat of rust on the tool, but nothing of the kind to be perceived on the magnet.

It has already been shown, both analytically and synthetically, that pyrogen is contained in water—analytically, by its development on the decomposition of water in an insulated galvanic arrangement; and synthetically, by the formation of water with the electric spark and flame. The well-known experiment of rendering a piece of iron magnetic, by immersing it whilst red-hot in water, is explained by this, and what is said above. The pyrogen and oxygen obtained goes to form the oxide; whilst the surplus pyrogen is partially or altogether absorbed by the iron, and the hydrogen escapes. A similar result is observed in a less degree by the exposure of red-hot iron to the air, nitrogen in this case being released. To give polarity at once to pyrite of iron thus prepared, it is necessary to hold it in a slanting direction on the line of the magnetic meridian during the immersion. If it be held perpendicular it becomes magnetic, but is not polarised, and, therefore, if suspended by a thread in the middle, does not point north and south. It will, however, acquire this property in about 24 hours, if left thus suspended—a fact I have never yet seen noticed.

IMPROVEMENTS IN MANUFACTURING METALLIC TUBES.—Mr. J. O. Yorke has just patented a process by which he proposes to cast iron or steel tubes in thick short lengths, which are afterwards to be rolled out to the requisite thickness by being placed upon a mandril of rather less diameter than the bore of the intended tubes, and passed while in a heated state between a pair of rollers, furnished with a number of grooves on their peripheries, which are of gradually decreasing diameter. Or, the short tubes may be slid on to a fixed mandril, which is supported in the grooves of a series of pairs of rollers, and made at those parts which are in the grooves thicker than elsewhere, but not quite equal to the diameter of the bore of the intended tube. The diameter of the grooves of each pair of rollers decreases gradually till the last, which is equal to that of the exterior circumference of the tube. The thick tube is slid up to the first pair of rollers, which seizes hold of it, partially compresses it, and passes it on to the next pair, which does the same, and so on throughout the series. At each succeeding operation the tube is shifted one-fourth round, in order that the roller may act upon different portions of the tube successively. The thick short iron tubes may be formed of bars with bevelled edges, bent round a rod, and welded together when on the mandril by the action of the first pair of rollers. The patentee proposes, lastly, to change the form of the flues in tubular boilers, from a circular into an oblong or rectangular one, by drawing them, while hot, through a die-plate, which shall have the effect of pressing the sides together, and consequently of decreasing their area without decreasing their heating surface.—*Claims:* 1. The mode, or modes, of manufacturing iron and steel tubes, by rolling or pressing thick short cylinders of these metals upon a straight mandril, between a pair of grooved rollers.—2. The mode, or modes, of manufacturing iron and steel tubes by rolling or pressing thick short cylinders of these metals over and upon a stationary mandril, between a series of pairs of grooved rollers.—3. The mode of decreasing the area without decreasing the surface of flues in tubular furnaces.

ACCIDENTS IN MINES.—Mr. Wyld has a notice on the books of the House of Commons to move, on an early day, that the increasing loss of life in the coal mines of Great Britain imperatively demands the interference of the Legislature.

Original Correspondence.

THE LONDON, &c., COAL CONSUMERS' COMPANY.

SIR,—Your strictures on this company, in your last Journal, are excellent, and exhibit this attempt in its true colours. There are, however, a few subjects omitted, or only cursorily noticed, which deserve to be more prominently brought forward. It is stated in the advertisement that the coals are to be supplied to the shareholders in London at 14s. per ton, each holder to be entitled to 1 ton per 2*l.* share, and to receive in addition a share of the general profits. The colliery is said to be near Holywell, a distance of 200 miles by land, and about 1000 miles by sea from London. Supposing that the coals are conveyed by rail at the low price of 1d. per ton per mile, the carriage of them to London will cost 16s. 8d. per ton, and charges and city dues at least 1s. 6d. more, which, with 4s. 6d. cost at the pit, makes them, without cartage and delivery, actually cost the company 1*l.* 2s. 8d. per ton, and yet the promoters tell the public they will supply them at 14s. per ton! But it may be said, it is not intended to send them by rail, but by sea. Even this alternative does not mend matters very materially, for it is found, by dear-bought experience, that the coal of South Wales, which is nearer by 200 miles, cannot be sent to the London market, for even a low remuneration, at less than 1*l.* per ton on shipboard in the Thames. Again, the charges for cartage and delivery in London are from 5s. to 7s. per ton, and yet the promoters would have the citizens to believe they will get coals for 14s. per ton. Even this is presuming that the coal will not cost more than 4s. 6d., including all charges at the pit month, which, supposing it to be unscreened, unpicked, or "waled," is just barely possible, if the staff of officials be very small, and the office expenses very low; but if the coal be sent to market in anything like the condition of the Newcastle coal, such a cost price is simply and unequivocally incredible; it will cost at least from 6s. to 7s. Taking the lowest sums which probability will warrant, the cost is as follows:

Coal at the pit's mouth	6s.	0d.
Freight to London (say)	13	0
City and river charges	1	6
Cartage and labour (say)	5	0=£1. 5s. 6d. per ton.

Such of your readers as are conversant with this subject, will observe that this is considerably below what the coal will most probably cost, which is more likely to be 30s. than 25s. 6d., but the lower sum is here stated to avoid even the appearance of exaggeration; and this, be it remembered, is for a "pig in a poke," of unknown size and quality, and may be all of the "inferior stuff," some of which is said to be mixed with the coal at present supplied to London. Now, Sir, the price of Newcastle coal in the River Thames is quoted as follows at the Coal Exchange on Friday last:—West Hartley, 14s.; Tanfield, 12s.; Ord's Redheugh, 12s.; Killingworth, 14s. 3d.; Haswell, 17s.; Lambton's Primrose, 15s. 3d., &c. By adding 10s. per ton to these quotations you have the retail credit prices. As the parties who deliver coal in London are compelled to have scales and weights with them, and to weigh the coal in the presence of the buyer, or his servant, on being requested, under a heavy penalty, the insinuation that only 16 cwts. is delivered for a ton is a gratuitous slander on the coal merchants of the metropolis. It is, therefore, very evident that the promoters of this scheme are either grossly ignorant, or attempting wilfully to deceive the public.—J. RICHARDSON, C.E.: *Neath, May* 29.

COAL PIT FIRES.

SIR,—A letter from Mr. Darlington, coal proprietor, of Astley, has gone the round of the papers, in which he attempts to show that fires in mines may be very readily extinguished by the application of carbonic acid gas. I do not attempt to deny, nor even argue that carbonic acid gas will not extinguish flame, or that it is not a destructive agent; but I do mean to argue that it is only applicable to cases in coal mines where the fire has accumulated to an inconsiderable extent, for when a large heap of metal and coal are in a state of combustion, the application of carbonic acid gas must be a process which will require a long time to extinguish it, owing to the rarification of the gas which takes place on the surrounding surface, and its penetrating deeper only as the surface becomes cooler.

It is an ascertained fact that at the time Mr. Gurney made his experiment near Astley, the fire (if any *then existed*) was buried several yards in water; and what gives rise to this doubt—is the fact that the entire workings have been examined, and not the least trace of an extinguished fire is to be found. The supposition now is, that the fire originally commenced in a "down brow" which, up to this time, is full of water. It is alleged that all access to the workings was precluded on account of smoke,—a circumstance easily accounted for:—A furnace was in continual operation for the purpose of ventilating the mines; and supposing a door be left open, which serves, when closed, to direct the current of air through the workings, the consequences resulting from it would be that instead of the smoke making its way through the upcast pit, it would traverse the workings, and a "back action" would ensue, and it would make its escape up, what was before, a "downcast pit."

As I have stated, I do not wish to deny the fact that carbonic acid gas will extinguish flame, but where a body of heat in mines and minerals has become formidable, the operation, although sure in the end, probably is but slow, and nothing like so formidable as that giant of the elements and safe extinguisher—water.—D. TIMMINS: *Worsley, May* 18.

RAILWAYS AND MINES—BY AN ENGINEER.—No. III.

SIR,—These two great interests are so intimately connected, and so dependent on one another, that whatever tends to depress the one affects the other also. Consuming an immense quantity of mineral productions, such as coal, iron, copper, brass, lead, &c., railways are the miner's best customers; and, on the other hand, it is from the collieries and mines, quarries and lime-kilns, that railways derive a large proportion of their traffic. This fact is so obvious and indisputable, that it is somewhat surprising how it has happened to escape the acute observation of your intelligent correspondent, "Placer," who, in his third paper, "contends that the capital lavished and lost upon railways would have assisted to raise and develope a vast amount of legitimate mining enterprise, which it has, instead, either crippled or destroyed." Now, it so happens that the mining interest was only some degree less maniacal in 1845 and 1846 than that of railways, and participated most largely in the short-lived prosperity of those sunny days. Not only were high prices obtained, but new furnaces were built, old ones out of blast were relit, additional mines were opened, and coal, iron, copper, and lead, were speedily and certainly transmuted into gold. These times were too good, alas! to continue long; but whilst mining enterprise was profitably engaged, no one ever dreamt or said anything in disparagement of the railway speculation from which it received its impetus, and to which it was indebted for very large, if not unprecedented, profits. It is all very well to say, that if the capital lavished and lost could be recovered, it might develope a vast amount of legitimate mining enterprise; but there is an old saying, that "we can't both eat a cake and have it;" and after having been a party at the feast, it is a little too much for the mining interest now to complain, and say it is crippled and destroyed for want of it. The panic, doubtless, did much harm; but it was only a natural consequence of previous excitement, and, as has been already shown, is not peculiar to, or inherent in, railways only; and it is scarcely generous to say, that it operated like the Upas tree upon the mining interest, because it drooped and fell, or struggled through the crisis, with a diminished number of shareholders. The mining interest shared most fraternally and eagerly in the excitement and the gains, but repudiates the panic and the losses; and now grumbles because it has to participate in the adversity which it did nothing to avert, and much to propitiate. The fact is, that railways and mines are inseperably connected, "for better for worse, for richer for poorer;" and any attempt to separate their interests will injure both, without benefitting either.

It is not, Sir, without a wholesome fear of exhausting your courteous indulgence, and the patience of your readers, that a continuation of these remarks is ventured on; yet "Placer's" observations on the South-Eastern Railway require some notice, however brief, lest it should be thought that this part of his communication is unnoticed, because it is unanswerable. It is well known that there were natural, as as well as parliamentary, obstacles to this company's obtaining a direct line from London to Canterbury and Dover; and that the shortest line is not always the quickest or cheapest. The correct way of estimating the space from one place to another, is by comparing the time and money required for different routes, and not the mere distance in miles. Admitting that there is a somewhat greater excess in distance than the nature of the country absolutely impelled, it does not follow that the railway will be a ruinous concern in consequence; and if it be 7 miles more to Dover, and 26 miles more to Canterbury than the tiresome and very hilly turnpike-road, it ought to be remembered that it approaches nearer to Maidstone, Tun-

bridge, and Folkestone, than it otherwise would have done, and thus sweeps into its net the traffic of a much larger extent of country. Since your able correspondent's letter was written, the Committee of Investigation have reported the result of their labours to a general meeting, held on the 17th inst.; and the fact that the shares have since advanced 2*l.*, is an indication of the renewed confidence which the report has produced. The *Railway Record* of last week says—"A pleasing novelty in the materials of the report of an investigation movement, and in the manner in which it is usually received, was furnished by the South-Eastern shareholders at their meeting on Thursday. In place of yells, there were shouts of enthusiasm; instead of votes of censure, seemingly cordial, and certainly enthusiastic, votes of thanks." Under these altered circumstances, it would be ungenerous to take advantage of "Placer's" statements, relating to the railway; and as to the general question, it may, perhaps, be reserved with advantage for discussion, until after the several committees of investigation have completed their labours, and revealed the real state and circumstances of the railways of the United Kingdom. AN ENGINEER.

May 28.

RAILWAYS AND MINES.

SIR,—Pending any reply which leisure, or inclination, may enable us to give to the remarks of "AN ENGINEER," in your last Journal, we beg to state, that on throwing together a few thoughts on "RAILWAYS AND MINES," we had no intention whatever, nor have we now, to enter into a *controversy* with any one, knowing that parties, when writing on the opposite sides of a subject, may differ widely, and thus engender ill-feeling and ill-natured remarks, out of which nothing good can come. The object with which we started was simply to *discuss*, and not to controvert, and we propose to be guided, as far as is practicable, in any future remarks by that feeling, although an example to the contrary has already been set us, and which we deem not in good taste, by "AN ENGINEER;" and an omission, to say the least of it, on your part, not characteristic of your usual circumspection, to have inserted.—PLACER: *London, June* 1.

CARBONIC ACID GAS ENGINES.

SIR,—In the attempts at the employment of the highly elastic gases as a motive-power, the great impediment to success has been their expense, as compared with the cheapness of steam. The least costly of the liquefiable gases is carbonic acid. It is given off in great abundance in lime-burning, and other manufacturing processes. But cheap as this gas is, it was found by Mr. Cheverton to involve by far too much expense, if allowed to escape after being used.

Liquid carbonic acid, if placed in a vessel exposing a moderate surface to the action of the atmosphere, might be made to work an engine with a pressure of 24 atmospheres with very little trouble—the only question being that of expense. The evaporation of the liquid would speedily reduce its temperature, possibly from 45° to 5°, at which it might be retained by the heat communicated from the atmosphere. It would, at this temperature, possess an elastic force equal to 310 lbs. on the square inch.

To generate the gas, chalk and dilute sulphuric acid might be used to obtain a first supply, leaving a residuum of sulphate of lime. The gas after passing through the engine, might exhaust upon quicklime, by which it would be absorbed, and the carbonate of lime formed could be used with acid as the generating substance; so that sulphate of lime, for which there exists a sufficient market, would be the resulting substance.

The question then is—Will the plan be as cheap as steam? I will state a few facts that I have ascertained, and any interested reader may judge for himself:—18 lbs. of coal are required to convert a cubic foot of water into steam, at a pressure of 50 lbs. to the square inch. To obtain a cubic foot of liquid carbonic acid, 1000 lbs. of the carbonate of lime and 400 lbs. of sulphuric acid are necessary. I ascertain this from the facts, that 100 grains of carbonate of lime, and 40 grains of sulphuric acid, produce 100 cubic inches of carbonic acid; 450 in. of gas, when condensed, form 1 in. of liquid, which, being multiplied by 1728 (the number of inches in a cubic foot), gives the weight of the lime in grains, 4-10th of the quotient showing the weight of acid. Quicklime, when exposed to the action of carbonic acid, gains nearly half its weight, or 44 per cent.

We have, then, the cost of 560 lbs. of quicklime; add 400 lbs. of sulphuric acid, less the value of 1000 lbs. of sulphate of lime, compared with the cost of 18 lbs. of coal. Take also into account the vast labour that is required to form the carbonic acid. The difference of pressure does not interfere with the calculations, because we have no sure evidence against the assumed law, that a given volume of any liquid developes the same amount of elasticity in a gaseous state.

There is, however, another way by which this acid may be adapted as a motive-power. It is to use it so that the acid is not exhausted into the atmosphere and lost, but condensed and re-used. Messrs. Cheverton and Brunel adopted plans in conformity with this principle. Mr. Cheverton says, it is a *sine qua non* that the acid should not have a chance to escape through any joint; therefore he conceived his cumbrous and expensive, yet ingenious plan. I have confidence that the progress of mechanical skill justifies the use of this gas in an ordinary engine. I will describe a plan I had arranged, before I knew that any machine had been planned, with the view of employing this agent as its prime mover. The generating and condensing vessels only need be described. The former ought to be placed in a large vessel filled with water, and formed of the most imperfect conducting substance compatible with the circumstances.

For any given amount of pressure, all gaseous bodies contain an equal quantity of heat, at whatever temperature they may be used. Therefore, a considerable fire would be required to sustain the temperature of the liquid acid during its evaporation. For this purpose, let the generating vessel have as many copper tubes, passing longitudinally, as can possibly be placed in it, without injuring its strength—so that the heat of the surrounding medium may be quickly imparted to the cooling acid. Heat the water to 100°, and the elasticity of the acid will be equal to 1200 lbs. on the square inch, at which temperature it should be kept. Now, after allowing the gas to pass through the engine, it may be forced into the condensing vessel, and formed into liquid by a pressure of 900 lbs. on the square inch, provided the temperature of the vessel be retained at 66°, which might easily be done. We have, by this means, an effective power of 300 lbs. on the inch.

The liquid must be transferred from the condensing to the generating vessel, and for this purpose let the bottom of the former vessel be higher than the top of the latter, as in the annexed figure, so that any fluid unopposed may flow freely down a pipe that connects the bottom of B to the top of A. In the pipe are two stop-cocks, C and D. Suppose C open and D closed, while each cylinder is half full of liquid carbonic acid, A exerting a pressure of 1200 lbs., and B of 900 lbs., their working condition. The pipe is filled with gas from A to D, and in the liquid from B to D. Let C be closed and D opened, and the liquid by its specific gravity will descend to C; while the gas occupying the space between C and D will rise into B. Now let D be closed and C opened, and the liquid will, from the same cause, readily flow into A. The engine might easily be made to work the stop-cocks with perfect accuracy, and the capacity of the tube between the stop-cocks could be arranged to suit the consumption of acid.

The cost of working an engine with this agent would differ from that of steam in the much less radiation from the boiler and fire of the former, consequent upon their much lower temperature. I cannot say to what amount the saving of fuel would extend; it must, I fancy, be very considerable, at least one-quarter.

If adopted as an auxiliary to the steam-engine, I believe it would be of great value, especially in steam-ships, where cold water is cheap, and the reduction of the amount of fuel required is of great importance. The exhaust steam from an engine would fully suffice to raise the temperature, so as to gain nearly double the power without any expense. The saving would be in this instance 100 per cent., less the radiation from the generating vessel, and the cooling of the gas in passing through the cylinder (say) 10 per cent. Thus, an engine equal to 50-horse power would, by the addition of the carbonic acid engine, be equal to 95-horse-power. A great desideratum would be obtained in locomotives—viz.: the same power, with half the weight of boiler, half the consumption of coke, and half the weight or required bulk of water. To keep the condensing vessel cool in this case, it might be much exposed to the action of the atmosphere, or surrounded by another tight vessel, to the top of which the suction-pipe of the force-pump might be attached, the bottom having communication with the water in the tender, so that a constant supply of cold water would act upon the condensing vessel.

To assist me in arriving at a satisfactory conclusion upon the supposed existence of any flaws in my theory, I have consulted the new volume of the Cavendish Society, *Gmelin's Hand-book of Chemistry*, and have had my convictions and results greatly strengthened by the investigation. After a lengthened and minute examination of a number of authorities, he gives, as the law of the specific heat of gases, that, on the cooling of a given volume of any gas, an equal quantity of heat is given off from each, and that the pressure is, in all cases, equal to its density, so that all gases exerting a pressure of equal force upon a given area, lose the same quantity of heat in escaping. It is this law that has always stood in the way of the use of the highly volatile liquids, as ether, for the production of a motive-power.

The principle may be stated thus:—If a steam-boiler requires 200 lbs. of coal to enable it to supply an engine of given power with steam at 400°, a carbonic acid boiler would require 200 lbs. of coal to supply the given engine with gas at 60°, less the inferior radiation of the latter, which, on my former supposition, would reduce the weight of coals required to 150 lbs. But when the waste heat of exhaust steam can be employed, the equation is something like the following:—Power of steam used, minus radiation of exhaust pipe and carbonic acid boiler, equal the power of auxiliary engine, or 100-horse engine—10-horse power lost by radiation by the steam exhaust-pipe and carbonic acid generating vessel = the power of carbonic acid engine. To obtain the effective power of which, we must deduct the radiation from its cylinder. This would be the case, provided the condensing vessel can always be surrounded by water at its ordinary temperature, or by some means kept at the ordinary temperature of the atmosphere. This, I believe, to be a correct statement of the principle.

Perhaps the most effectual manner of applying the waste steam would be to surround the carbonic acid boiler with water, into which the steam cylinder may exhaust, and this water would again be used to supply the boiler; this plan might be arranged to act as a condenser to the steam-engine, rather than to prevent the free egress of the steam. R. E. R.

THE SOCIETY OF ARTS.

SIR,—I am afraid the Society of Arts is like the "deaf adder that stoppeth her ears, and will not listen to the voice of the charmer, charm he never so wisely;" for the repeated warnings of your valuable Journal have produced but little effect, and the "powers of darkness" (if I may use the term in a modified sense) still rule in the Adelphi. Nevertheless, my daily incited indignation will not allow me to remain silent, when I see a public body, that is placed in a position to effect much good in forwarding industrial progress, wasting time in continually babbling about high art, which is much too high for its puny efforts; and forgetting what ought to be especially remembered, that it is "by hammer and hand all arts do stand." It is well known that one of the best features in the Society of Arts is the practice of giving, on Wednesday evenings, public illustrations of new inventions and improvements; and this system is of more importance, as regards the fostering of genius, than the gingerbread medal presentation system, because the auditors at these meetings are of a miscellaneous character, some being practical men, and others merely of the general public—anything brought forward is commented on, and then left to the sense of the community at large (no opinion being pronounced by the society); and these meetings being noticed by the public press, an inventor obtains, what is so very essential to him, a good channel for presenting his plans to the public, to whom he looks for efficient support.

But, Mr. Editor, although all this is well known, both in and out of the society, the powers that be have so reduced the number of the illustrative meetings, by allowing the pseudo-exhibition of British manufactures—*et multis aliis*—to interfere with them, that I believe we are to have about 12 of these illustrative nights during the present year! This is not all. Even this meagre quantum is begrudged; for, on several meetings, instead of the members and friends assembling in the proper place of meeting (the great room) at the society's house, the admirers of the base mechanic arts are permitted (!) to indulge in their lucubrations in a room, which, as a place of public meeting, is a sort of black hole, ycleped, the model-room—the great room being under preparation for the reception of the pictures of some great artist, as was the case yesterday evening, because, forsooth, London has no picture galleries! I pray that Fortune will speedily deliver us from the high art of Russell and Co.

London, May 31. AN INDIGNANT MEMBER.

THE WATER-PRESSURE ENGINE.

SIR,—"North Briton" certainly has, as Mr. Curr observes, given erroneous data for his inquiry being satisfactorily answered. It would seem that he wanted two queries answered, one of which was to know the power of an engine (water pressure in both cases) to do a certain amount of work (which you have answered), and the other was to ascertain the power of an engine, the dimensions, &c., of which are given; and the answer I here append:—

$$\frac{20^2 \times .7854 \times 80 \times 12}{1728} = 174{\cdot}5 \text{ cubic ft. passing through the cylinder per min.}$$

$$\frac{33{,}000}{62{\cdot}5} = 528 \text{ cubic feet of water equal to one-horse power.}$$

$$\frac{174{\cdot}5 \times 96}{528} = 31{\cdot}72 \text{ horse power as required;}$$

and the water required for that purpose is just the quantity passing through the cylinder—viz.: 174·5 cubic feet. This is from the bowels of the earth; and if there be anything wrong, Mr. Curr, perhaps, would be so good as to put me right.

Caledonia, May 26. A MINER.

[We forwarded this letter to Mr. Curr, and upon which that gentleman remarks:—"'A Miner' having split the 'North Briton's' enquiry into two separate questions, has correctly given the quantity of water, *supposing it applied alternately on each side of the piston*, which not being the most simple, is, probably, not the usual mode of application. The power given by 'A Miner' is the nominal power, or that which would maintain the resistance in equilibrio; therefore the work it would perform is still unknown. The question would have looked more workmanlike, had either the cylinder's diameter or the speed of the piston been omitted therein, and a demand made for one or the other, so that the effect would be a maximum, and the outlay on the machinery a minimum."]

STEAM NAVIGATION—MARINE LOCOMOTION.

SIR,—Your respectable and well-intentioned correspondent, Mr. John De la Haye, is not to be put out of his crotchet so soon as I had imagined, and I will now try the effect of putting on a little more steam. To reduce the cost of the globes, he has very economically attenuated their substance in the proportion of 8 to 1, and their diameter is reduced from 100 to 30. He must, therefore, have $\left(\frac{100^3}{30^3} =\right)$ 37 globes of the smaller diameter to displace as much water as 1 globe of the larger. Their surface will be $\left(\frac{30^2 \times 37}{100^2} =\right) 3\frac{1}{9}$ times as great as that of the large globe, and $\frac{1}{10} \times 3\frac{1}{9} = {\cdot}2088$, the relative weight or cost of the 37 globes when the large one costs ·5; or the cost and weight would be reduced from 5 to about 2.

The superficies of a sphere was stated in my last 15,708, instead of 31,416, and, therefore, its cost would be 47,124*l.*, and two-fifths of which, or 18,850*l.*, would be the cost of 37 globes $\frac{1}{10}$ in. thick, for every 1000 tons (as before) displaced, which is somewhat heavy for matter of such tenuity, that its days may be almost numbered. Of the arrangement of the 6 globes nothing seems yet fixed; but if each be exposed to the air, as the one globe would be, the required power, at 48 miles an hour, to countervail its resistance, would be $(2800 \times 3\frac{1}{9} =)$ 9333 horses—so that the substitution of little spheres for large ones would be bad economy, and the less they are made so much the worse they will be; *ergo*, the larger the better.

I have not taken any account of the resistance of the water, as some one else has found it out to his cost; but another portentous obstacle is still to be named, which is, that the whole weight of the moving mass, all but the axles and globes, will be chargeable with friction on the axles; but the amount I *dare* not calculate until their diameter be known. Perhaps they who are least willing to give up a crotchet, for reason's sake, may be persuaded by harmless railery. At length the globes are turned into something like paddles, or more properly water buts, and when their dimensions have been settled, the information as to their surface and displacement will be as readily found at every academy where cask gauging is in course of tuition, as amongst mechanics, who are out of practice in that department of science.—JOHN CURR. *Upper Penton-street, May* 28.

NEWSPAPERS AND THE TELEGRAPH IN AMERICA.—At the last meeting of the directors of the New York, Buffalo, and Albany Telegraph Company, it was decided to reduce the rates for newspaper communications and dispatches to 8*8* per week, or one-third less than the previous rate; and at the same meeting a dividend, for the last six months, was declared of 6 per cent. on the profits.

The *Isle of Man Times* mentions that the men employed in piercing the rocks in Castletown harbour, for the purpose of deepening the water, so as to improve the entrance, have discovered a very rich vein of lead ore, which contains silver.

THE IRON TRADE—ALLEGED BREACH OF CONTRACT.

COURT OF EXCHEQUER—MAY 29.

KUMPF v. SWAYNE.—This was an action to recover compensation in damages for neglecting to deliver 300 tons of bar-iron, pursuant to contract. The defendants denied the contract as alleged.—Mr. WHITEHURST (with Mr. HILL) appeared for the plaintiffs, and Mr. BRAMWELL for the defendants.

It appeared from the evidence adduced on behalf of the plaintiffs, Messrs. Kumpf and Eckestein, that on the 5th of February last they applied to their broker, Mr. Vandandelson, to make an arrangement for the purchase of a large quantity of iron, on behalf of houses at Cologne and Aix la-Chappelle, with which they are connected. Mr. Vandandelson accordingly applied, through the instrumentality of his clerk, Mr. Bateman, to the defendants, Messrs. Swayne and Bovill, who are extensively engaged in the metal trade; and after some negotiation, Bateman obtained a written authority from the defendants to sell at a specified price. The authority, which is known in the metal trade under the description of a "firm offer," was in these words:—

"100 to 300 tons at the buyer's option. Good merchantable Welsh bars, 5*l.* 7*s.* 6*d.* per ton; 3 per cent. discount for cash. Open till the 19th instant. Dated 5th February, 1849. You may sell as above." SWAYNE AND BOVILL.

This offer was communicated by plaintiffs to their correspondents in Germany, by whom it was accepted by a letter received in London on the 17th February; and on the 19th, which was Monday, the plaintiffs wrote to the defendants that they accepted the offer for 300 tons at the specified price of 5*l.* 7*s.* 6*d.*, and the defendants on the same day wrote back that the acceptance came too late, and that they declined to deliver the iron. The bought and sold notes were not delivered to the defendants until the 20th February. By that time bar-iron had risen in the market to 6*d.* per ton, and the plaintiffs, having pledged themselves to supply the houses in Germany on the faith of the defendants' offer, purchased 300 tons at the advanced price, and now sought by this action to recover the difference in price, amounting to 187*l.* 10*s.*, and some small additional sum for expenses.

On the part of defendants, it was now submitted, that the words "till the 19th instant" in the written offer, meant exclusive of the 19th, and that the bought and sold notes should have been delivered, and the contract completed, on the day preceding the 19th. Evidence was then adduced by the plaintiffs to show that, by the usage of the trade, the bought and sold notes need not be delivered on the same day, but were in sufficient time if delivered before noon on the day after the contract was made; and, in this case, the bought and sold notes were delivered on the morning of the 20th February.

Mr. BARON PARKE, in summing up, told the jury that there was a written authority from the defendants to the broker, to sell until the 19th of February, and in his opinion the word "till" was inclusive, so that the time for accepting the contract did not terminate until the evening of the 19th. The power given to the broker, however, ought to be exercised, by making an obligatory contract, binding upon both parties, within the time specified; and, in his opinion, there was no binding contract until the bought and sold notes were communicated to the defendants. There was some evidence for the jury, however, that by the usage of the iron trade, when a contract was not made until late in one day, it was sufficient if the bought and sold notes were delivered at business hours on the following morning. It was for the jury to say whether this usage was established to their satisfaction.—The Jury intimated that they were satisfied the buyer had full 14 days from the date of the contract (the 5th February), to determine whether he would accept the offer; but, upon the other question, whether there was a usage to extend the time for the delivery of the bought and sold notes, they wished to have time to consider and consult. After retiring and remaining absent for about a quarter of an hour, the jury returned into court, and stated that a majority were of opinion that there was a usage that the bought and sold notes might be delivered on the following day.

Mr. BARON PARKE then observed, that the opinion of the majority of the jury was not supported by very satisfactory evidence; but there was another difficulty in the case. He was of opinion that the contract entered into by the defendants was a revocable contract, and that they had revoked it in due time. He should, therefore, direct a nonsuit, with leave, however, to the plaintiffs to move to enter a verdict for the sum claimed.

It was finally agreed between the counsel, to prevent further litigation, that a juror should be withdrawn, and that the learned judge should say whether, in his opinion, the plaintiffs were entitled to recover any, and (if any) what sum.

BARON PARKE thought this the most prudent termination, as the question in dispute was involved in various legal difficulties. He ultimately awarded that the plaintiffs should receive half the sum they claimed, 93*l.* 15*s.*, and a verdict was entered for that amount.

THE COPPER MINERS' COMPANY.

COURT OF COMMON PLEAS—MAY 30.

WOOD v. THE COPPER MINERS OF ENGLAND.—This was a special case, and also a demurrer, arising out of an action of covenant, the facts of which had been referred to arbitration.—Mr. Serjeant TALFOURD and Mr. KEATING, Q.C., appeared for the plaintiff; and Mr. ALEXANDER, Q.C., and Mr. GRAY, for the defendants.

The questions raised in the case were, whether the defendants, under an agreement by deed entered into by them with the plaintiff, to supply him with certain small coal for the purpose of making patent fuel, were bound to supply him in a certain manner, and not according to their own convenience; and, secondly, whether the defendants were liable to a certain penalty as liquidated damages, according to the terms of their covenant, on their making default in such supply of small coal. The agreement was by deed under seal. The material words of the deed relied on were, "And it was agreed (between the plaintiff and the defendants) that all the coals consumed and used by the plaintiff should be bought and purchased of the defendants, provided the defendant can and shall supply him to the extent of 500 tons per week," at a certain rate. These coals had not been supplied.

The COURT in delivering judgment, said there could be no purchase without a sale; that this was an agreement between the parties by which one bound himself to purchase, and the others bound themselves to sell, provided they were not incapacitated from so doing. Judgment must, therefore, be for the plaintiff on the demurrer.

The plaintiff's counsel assented to nominal damages being found on the case.

The case occupied the greater part of the day.

FRENCH RAILWAYS.—It appears from a return of French railways that the estimated cost of constructing 18 lines amounted to 927,410,000f. (37,096,400*l.*), of which 13 were estimated to cost 624,110,000f. (24,964,400*l.*), and it has since been ascertained that they will cost 849,422,000f. (33,976,880*l.*), being on the average 36 per cent. above the estimates. Some of the lines cost between 60 and 75 per cent. above the estimates, whilst others cost no more than from 2½ to 16 per cent. above the sum specified. Two of the lines were completed within the estimates—viz.: the Paris and Rouen, and Boulogne and Amiens.

THE DIRECT NORTHERN.—The works on this line, in the neighbourhood of the metropolis, are progressing very rapidly towards completion. The line as far as the Caledonian-road, at a short distance above the Caledonian Asylum, has been excavated, and a bridge is constructed across the railway on a line with the Caledonian-road. Above 100 men are now employed on Copenhagen Fields, under which a tunnel will be formed several hundred yards in length, to the Regent's Canal, passing under Maiden-lane. For this purpose three shafts are in course of formation, at equal distances from each other. Between Holloway and the Liverpool-road, a row of arches is erected, and from the Holloway-road to the Seven Sisters-road, an embankment is being raised, the materials being supplied from extensive cuttings between Hornsey Wood House and Wood Green. The line after passing under Copenhagen Fields and Maiden-lane, will be taken under the Regent's Canal, and it is intended that the water of the canal shall be carried by an iron viaduct over the railway.

HUDDERSFIELD AND MANCHESTER.—This expensive but important extension of the London and North-Western's lines is now nearly completed, and is to be opened at the same time as their branch to Altrincham, on the 2d July. Their trains will run over the Sheffield company's line out of Manchester, as far as Stalybridge, on payment of a toll; but the southern traffic to Yorkshire will leave the line near Stockport on a branch of their own.

LEEDS AND THIRSK RAILWAY.—A correspondent informs us that the immense tunnel on this line, which runs under Bramhope Ridge, is now so far advanced towards completion that it is purposed to run a steam-engine through it before the end of the present month. As yet one line of rails only has been fully laid down; but the masonry and brickwork connected with the arches and permanent shafts are rapidly approaching completion, and artificers are engaged in sheathing the interior of the tunnel with sheets of galvanised iron, in places where the water oozes through to any extent; and there is no doubt that the whole will be fully completed before the Leeds end of the line is ready for opening in the autumn.

MANCHESTER, BUXTON, MATLOCK, AND MIDLANDS JUNCTION RAILWAY.—This line was inspected on Monday last by Captain Laffan, one of the Government Inspectors of Railways, on that section completed from Ambergate (where it joins the Midland Railway) to Rowsley, when he expressed his satisfaction at the very substantial manner in which the bridges, aqueducts, and tunnels were constructed. The opening of this important line will, in all probability, take place next Monday, which will furnish a direct communication from the metropolis and the south with the fashionable watering-place of Matlock.

WATERFORD, WEXFORD, WICKLOW, AND DUBLIN RAILWAY.—It appears, from a return to the House of Lords respecting the allotment of 5800 shares of the above company among members of either House of Parliament, that 372 shares were allotted to three members of the House of Lords, of which 202 shares were taken up, and the deposits paid upon them; and of 5489 shares allotted to 47 members of the House of Commons, 4467 were taken up, and the deposits paid thereon, leaving 1022 not taken up. The shares were first issued on the 1st July, 1845, and appeared in the official list of the Stock Exchange on the 23d of July; on the 24th of July they were marked as done at ½ premium, and on the 25th of July at ¼ premium.

NEW LOCOMOTIVE.—An exceedingly handsome and interesting new locomotive has just been built by Messrs. J. and E. Headly, of Cambridge. It is intended for the use of several of the officers engaged upon the line, but the very small and economic style upon which it is constructed is attracting much attention, and will unquestionably lead to its more general use. The engine and tender (which will convey four persons) are in one carriage, and only 9 ft. long, with two 5-inch cylinders upon two pair of wheels, and the whole weight, when in working trim, does not exceed 3½ tons (the average weight of an engine and tender being at least 30 tons). The driving-wheels are 4 feet 6 inches in diameter, and, in a trial trip on Monday week, she ran with great steadiness at the rate of 40 miles per hour; it is conjectured that she can accomplish 60 miles per hour with ease, as the tendency to oscilate would be much reduced in consequence of being so very low. The consumption of coke is only 4 lb. per mile.—*Norfolk Chronicle.*

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WORKING RAILWAYS BY CONTRACT.—ATMOSPHERIC.

The disposition which recent disclosures in the management of the affairs of railway companies has naturally created in the shareholders to have their traffic worked by contract, offers a favourable opportunity to the promoters of atmospheric systems of propulsion to get their plans adopted; and, as admirers of the principle, we are induced to offer a few suggestions, which, if acted on, will, we have no doubt, go far towards ensuring it.

1st. We suggest an amalgamation of interests amongst the patentees and promoters of contemporary atmospheric systems, or of such of them as would have the effect of ensuring the support of parties favourable to this principle of propulsion.

2d. We suggest that as soon as an amalgamation has been effected, preliminary proceedings be immediately commenced, for forming a company for carrying out the atmospheric principle, the proposed capital being such as would enable them to supply all requisite machinery and apparatus at their own expense, and work the traffic at a given rate, which, if it be only on a par with the locomotive contractors, would have the preference, as to safety, diminished wear and tear of permanent way, and other advantages. The first object of the company should be to practically test, on a full-sized working scale, such of the inventions as the majority of a board of directors considered most likely to ensure success, for which a small deposit might be made, beyond which the depositors should not be liable. After the experiment had been made, the depositors, or their nominees, should have the privilege of taking up shares to the extent which their respective deposits entitled them.

3d. We suggest that the consideration to be given by the company to the parties interested in the several patents, shall consist of a number of "free shares," which, however, should not entitle the holders to a dividend of the profits, until after a fair interest on all the subscribed capital had been paid, after which all the shareholders should stand on a par.

PENINSULAR & ORIENTAL STEAM NAVIGATION COMPANY.

The seventeenth half-yearly meeting of shareholders was held, on Thursday last, at the offices of the company, in Leadenhall-street. This meeting being for receiving a report from the directors of the working of the concern for the half-year ending 31st March, and for the declaration of a dividend, no statement of accounts was furnished, the Deed of Settlement prescribing that the accounts shall be made up and presented annually.

For the details of the report of the directors, and a report of the proceedings at the meeting, we refer to another part of our paper. But it is satisfactory to notice that this great company continues to go on most prosperously. The same dividend—at the rate of 4 per cent for the half-year—has been the result of the company's operation for that period, as in the previous year; and as the company has now renewed the contract with the Government for conveying the mails to India and China between Southampton and Alexandria, which was uncertain at the date of the last half-yearly meeting, owing to another party having made tenders to the Government to convey them at a cheaper rate, but who ultimately failed to satisfy Government regarding their ability to carry out the contract, and as the new plan of the insurance fund has not been affected by any casualty from sea risk during the last 12 months, and will be otherwise benefitted, there is every reason to believe that the prospects of this company are likely to be of a still more satisfactory character in the next half-year, and to warrant the confidence of the public in the stability and prosperity of the undertaking, which is one of vast public importance in connecting England so closely with the East, and which certainly deserves the success which has been the result of so spirited an effort on the part of the original directors and proprietors of this company.

Sir John Pirie has recently returned from Egypt, whither he had been on a mission connected with this object of the company, and it is satisfactory to know that he was received by the Pacha "with marked distinction and courtesy." Various proposed improvements in the system in operation, having reference to Egyptian interests, were assented to by the Pacha. His Highness has authorised the directors to order, for his account, one additional steam-vessel for the Nile, and two paddle-wheel steamers for the Mahmoudieh Canal, each of which will be devoted to the conveyance of passengers only.

The report contains several interesting particulars, besides those to which we have adverted. They relate to the "Insurance fund," "Steam communication with Australia," the "Contract for conveying the India and China Mails between Southampton and Alexandria," the "Parliamentary Committee appointed to inquire into the contract packet service," the "Further improvement of steam communication with India," and the "Establishment of a branch line of steam communication between Hong Kong, Manila, &c., and Canton."

The following is the copy of the address from the court of directors of the Peninsular and Oriental Steam Navigation Company to his Highness Abbas Pacha, Viceroy of Egypt, presented to his Highness by Sir John Pirie, deputy-chairman of the company at Cairo, on the 17th March, 1849, in the presence of the Ministers of the Egyptian Government, and of the Hon. C. A. Murray, her Majesty's agent and Consul-General in Egypt, and of the representatives of other powers at that court:—

TO HIS HIGHNESS ABBAS PACHA, VICEROY OF EGYPT, &c. &c.

MAY IT PLEASE YOUR HIGHNESS,—We, the Court of Directors of the Peninsular and Oriental Steam Navigation Company, being desirous to convey to you an expression of our feelings of satisfaction at your Highness' accession to the Government of Egypt, have deputed our Vice-President, Sir John Pirie, a Knight Baronet of this Kingdom, an Alderman, and late Lord Mayor of the City of London, to present to you our hearty congratulations on that auspicious event.

Succeeding, as your Highness does, to this important station at a comparatively early period of your life, we hope that your administration of the Government of that interesting country may be of as long duration, as from the intentions which we are informed your Highness has already intimated, we doubt not it will be wise and liberal.

The enlightened wisdom of your Highness, we feel assured, will have already pointed your attention to the well-proved fact, that the strongest tie for binding nations, like individuals, to mutual peace and good-will, is an identity of their material interests.

Egypt, for some years past, has become, and, we trust, is destined permanently to continue, the great throughfare of communication between the eastern and western hemispheres. That communication, of which the enterprise under our administration forms the chief instrument, has rendered the good government, the tranquility, and prosperity of Egypt, objects of interest and solicitude, not alone to this company, but to the British nation, and even to the greater portion of the civilised world.

We, therefore, entertain a confident hope that your Highness will actively devote, at an earlier period, your attention to the importance of promoting the improvement of the means and arrangements for the transit communication through your country to and from the East, on which subject we have instructed and empowered our colleague, Sir John Pirie, to confer and treat with your Highness's Government.

May Providence long spare your life, to be a blessing to your country, and the world in general.

By order of the court of directors,
C. W. HOWELL, Secretary.

COPY OF REPLY FROM HIS HIGHNESS.

TO OUR ILLUSTRIOUS, JUST, AND MOST SINCERE FRIEND, SIR JOHN PIRIE, BART.

We have received, with feelings of great pleasure, the friendly letter, by which it is made known to us that, having heard of our accession to the Government of Egypt, by the grace of his Majesty the Sultan, you present to us, in the name of the honourable company you represent, their congratulations, and express their joy and satisfaction at this auspicious event, and their hope that the interests of the company will be protected by us in a satisfactory manner.

We are very much obliged to the directors of the company for this proof of their friendship, which is rendered the more apparent by their having commissioned you, one of their members, to proceed to this country, to compliment us, and to strengthen between us sincere and lasting friendly relations.

To you we have expressed our acknowledgments, assuring you of our friendship, as well for yourself as for the other directors of the company, and declaring our earnest desire that these intimate relations may be firmly established, and of long duration.

As to the interests of the company, you may assure yourself that all our solicitude is directed to the perfect safety of the roads, and that every comfort and accommodation that passengers can desire will be secured to them; to which effect the most stringent and rigorous orders have been issued to all the natives and servants of the Government in the interior; in short, you may rely upon our endeavours to accomplish all those improvements which the company desire, and we hope to arrive at a greater degree of success than in times past.

Presenting our most profound salutations to you, as well as to the honourable board of directors, and hoping to be always held in your valued remembrance,

We have the honour to be, &c., (Signed) ABBAS.

TRADE WITH CONSTANTINOPLE.—A monthly communication between Southampton, Constantinople, and the Black Sea, now exists by means of the Peninsular Company's steamers. The *Sultan* steamer was the last ship that left Southampton—she left on Tuesday. The traffic by these steamers has so much increased, that there is always a large quantity of goods to be sent by them on their outward voyages for which room cannot be found. The Peninsular Company, therefore, gave notice to merchants, that if there was a very large quantity of goods left for shipment after the *Sultan* was full, an extra steamer should be despatched on the 9th June. This has not, however, been found necessary; but there cannot be a doubt that in a short time the traffic between Southampton and Turkey will warrant a steam communication twice a month.

THAMES TUNNEL COMPANY

The number of passengers who passed through the Tunnel in the week ending May 26 was—No. of passengers, 12,654.—Amount of money, £52 14s. 6d.

London: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their offices, No. 26, FLEET-STREET, where all communications are requested to be addressed. [June 2, 1849.